SAMSUNG

ELECTRONICS

VHS PAL HQ

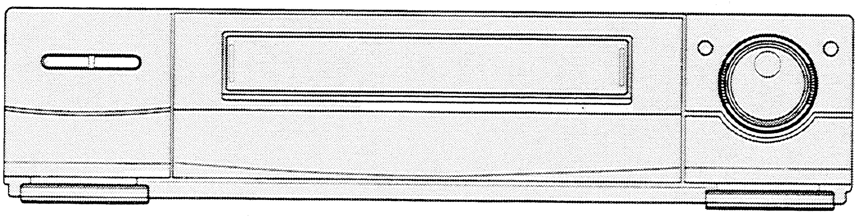
SERVICE MANUAL

SVM-P13-052-1E
68139 - 132 - 154

MODEL : VXK-356

VIDEO CASSETTE RECORDER

V14267



SPECIFICATIONS

Format :	Standard VHS PAL/MESECAM
Video Recording System :	Double Azimuth 4 Rotary Heads Luminance ; FM Azimuth recording Color ; Down converted subcarrier phase shifted direct recording
Television System :	CCIR standard (B/G System)
Tape Width :	12.65 mm (1/2 inch)
Tape Speed :	SP : 23.39 mm/sec LP : 11.69 mm/sec
Recording/Playback Time :	SP : 240 min with E-240 type LP : 480 min with E-480 type
FF/REW Time :	Less than 5 min in REW, Less than 5 min 30 sec in FF with E-180
Heads :	Video ; Double Azimuth 4 Rotary Heads Audio/Control ; 1 stationary head Erase ; 1 full track erase

VIDEO

Input :	0.5 to 2.0 Vp-p ; 75 ohm unbalanced
Output :	1.0±0.1 Vp-p ; 75 ohm unbalanced
Signal-to-Noise Ritio :	Better than 43dB (SP) Better than 40dB (LP)
Horizontal Resolution :	More than 240 Lines (SP) More than 220 Lines (LP)

AUDIO

Input :	Line ; -8 dBm, 50 Kohm unbalanced
Output :	Line ; -4±3dBm, 1 Kohm unbalanced
Wow-Flutter (WTD) :	0.4 % Max (SP) 1.2 % Max (LP)
Signal-Noise Ratio :	40 dB Min (IHF A FILTER)
Frequency Response :	100Hz ~ 8KHz (SP) 100Hz ~ 5KHz (LP)

Receiving Channel :	VHF LOW, VHF HIGH, VHF
Power Requirement :	230V (AC 50/60Hz)
Power Consumption :	Approx. 20 watts
Operation Temperature :	41 ° F ~ 104 ° F (5 ° C ~ 40 ° C)
Operation Humidity :	10 % ~ 75 %
Weight :	Net 5 Kg
Dimensions :	398 (W) x 87.5 (H) x 314 (D) mm (without LEG)

Printed in Korea

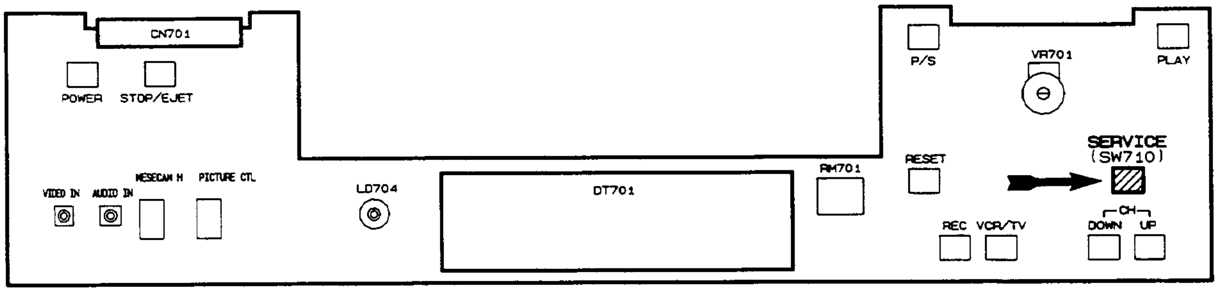
MAR. 1994

IMPORTANT SERVICE NOTICE

1. Service Option

For this chassis of VCR, the sensor (start / end / reel) are located on the Main PCB not in the deck assembly. There is a important service option that has to be followed to repair Main PCB without "deck assembly" connected. To imitate the function of the sensor, push the "SERVICE" key (SW710) on the Function/Timer PCB. See diagram below.

Note : After connecting extension cable 4 between deck assembly and Main PCB, to make a cassette load, cover start sensor, then press and hold a cassette in the housing assembly.



FUNCTION/TIMER PCB (TOP SIDE)

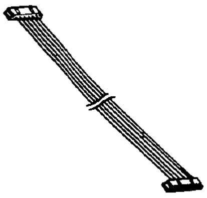
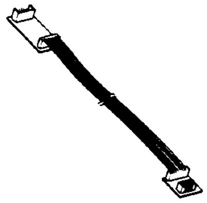
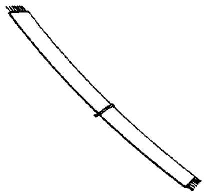
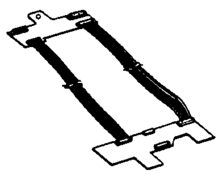
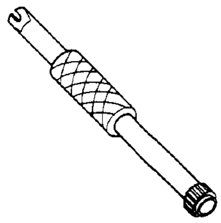
Note : To release the imitated function of sensor, push the "RESET" key on the Function/Timer PCB or unplug the AC power cord and plug it again.

2. How to use the Service Jig

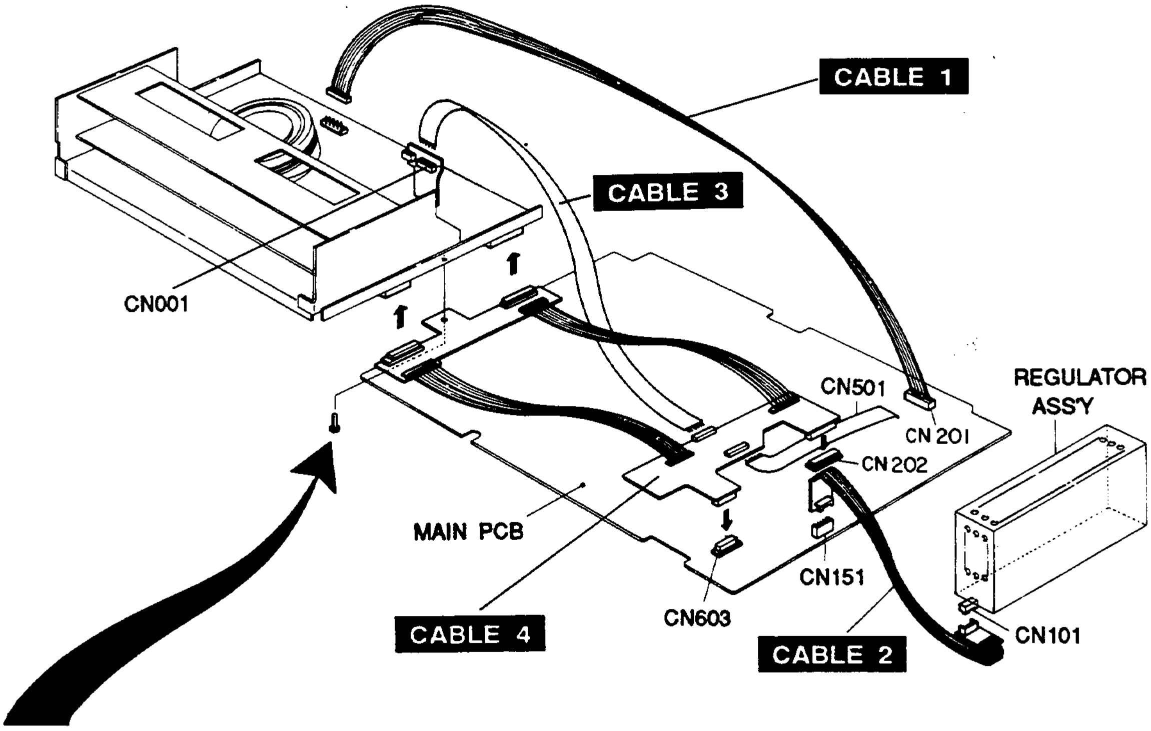
To have extended service ability for this unit, you must purchase the "Service Jig for X-3 Chassis VCR".

Note : This service jig can be used for several models of Samsung VCR's. Please keep it for future use.

Jig Item	Code NO.	Description	Sketch NO.
Extension			
Cable 1	68140-300-103	Use for Cylinder Motor ←→ Main PCB (CN201) Connecting Cable	A
Cable 2	68140-300-105	Use for Regulator (CN101) ←→ Main PCB (CN151) Connecting Cable	B
Cable 3	68140-300-106	Use for A/C Head (CN001) ←→ Extension Cable 4 Connecting Cable	C
Cable 4	68140-300-107	Use for Deck ←→ Main PCB (CN202, CN603) Connecting Cable	D
Special Driver	68140-500-100	Use for X-Point Adjust / Tape path Alignment	E

A : CABLE 1	B : CABLE 2	C : CABLE 3	D : CABLE 4	E : SPECIAL DRIVER
				

3. Extension Cable Connections


CABLE 1
CABLE 3
CN001
CN501
REGULATOR ASS'Y
CN 201
CN 202
MAIN PCB
CN151
CN603
CABLE 4
CABLE 2
CN101

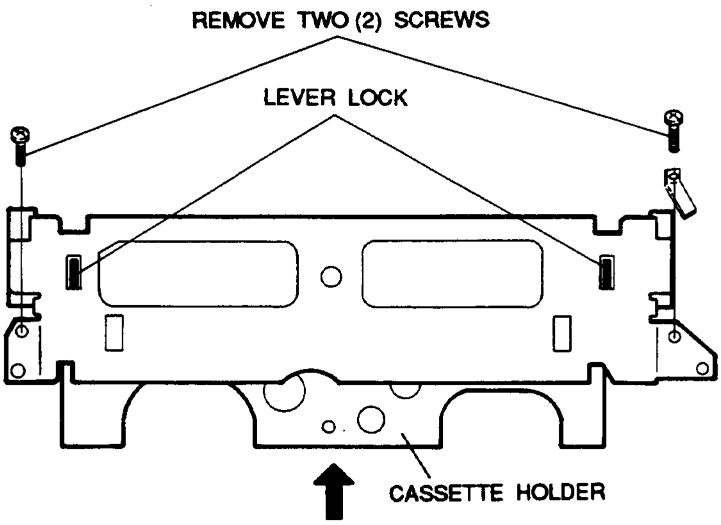
Note : Remove one (1) screw from the eject drive gear and connect extension cable, and install the screw again.

4. How to operate the VCR without a cassette tape

Note : First, push the "SERVICE" key (SW710) on the Function/Timer PCB.

Method 1 : Press the top of the lever lock (L) and (R) simultaneously, then push the cassette holder.
All function will work in this mode.

Method 2 : Remove two (2) screws securing the upper chassis, then lift up the upper chassis. Push the cassette holder.
All function will work in this mode.


REMOVE TWO (2) SCREWS
LEVER LOCK
CASSETTE HOLDER

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1. GENERAL DESCRIPTION

1-1. SAFETY PRECAUTIONS

1. Before returning a Video Cassette Recorder to the customer, always make a safety check of the entire instrument, including, but not limited to the following items:

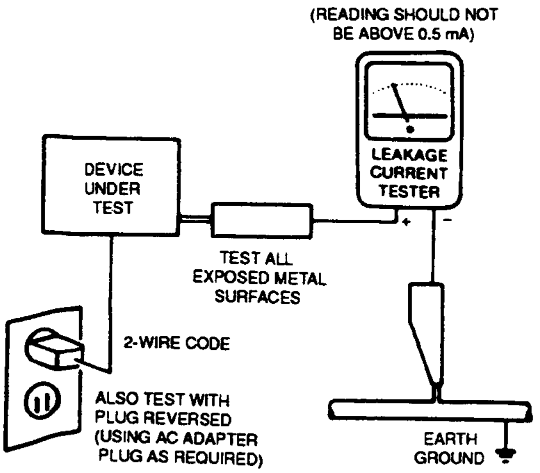
a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing.

(1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience.

(2) When reassembling the instrument, be sure to put back in place all protective devices, including, but not limited to nonmetallic control knobs, insulating, fish papers adjustment and compartment covers/shields, and isolation resistor/capacitor networks.
Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contract a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) improperly fitted and/or incorrectly secured cabinet covers.

c. Antenna Cold Check-With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, to each of the coaxial connectors.


(READING SHOULD NOT BE ABOVE 0.5 mA)
LEAKAGE CURRENT TESTER
+
-
DEVICE UNDER TEST
TEST ALL EXPOSED METAL SURFACES
2-WIRE CODE
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

AC Leakage Test

If the measured resistance is less than 1.0 megaohm or greater than 5.2 megaohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check-With the instrument completely reassembled plug the AC line cord directly into a 220 (240V-UK) AC outlet. (Do not use an isolation transformer during this test). Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, Measure for current from a known earth ground (metal waterpipe, conduit, etc) to all exposed metal parts of the instrument (antennas, handle bracket, metal , etc), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test.

ANY MEASUREMENT NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR CONNECTING ANTENNA OR ACCESSORIES.

e. AC Leakage Test
Avoid shock hazards. The television instrument, accessory, or cables (s) to which this VCR (VCP) is connected should have the applicable sections of the leakage resistance antenna cold check and the leakage current hot check performed. Do not connect this VCR (VCP) to a TV antenna, cable or accessory that exhibits excessive leakage currents.

2. Read and comply with all caution and safety related notes on or inside the VCR (VCP) cabinet and chassis.

3. **Design Alteration Warning**-Do not alter or add to the mechanical or electrical design of this Video Cassette Recorder (Player). Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you,the servicer responsible for personal injury or property damage.

4. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a) near sharp edges, b) near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c) the AC supply, and d) antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring between components and the printed circuit board.
Check AC power cord for damage.

5. Components, parts and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications, Additionally, determine the cause of overheaing and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6. Product Safety Notice
Some electrical and mechanical parts have special safety related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage,wattage etc. Parts that have special safety characteristics are identified by a (*) or (⚠) on schematics and parts list. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards.
Products safety is under review continuously and new instructions are issued whenever appropriate.

1-2. ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to appling power to the unit under test

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive foam, aluminum foil or comparable conductive material)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive(ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list and may be slightly different or amended since this drawing was prepared.

IMPORTANT SAFETY NOTICES
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

1-3. GENERAL INFORMATION

- **VISS (VHS Index Search System)**

Viss is the function of searching swiftly to previously designated points of interest on the tape using the index signal.

– Index Search

This function fast forwards or rewinds the tape to the point with the specified index signal, and starts playback from there automatically.

– Index Scan

This function fast forwards or rewinds the tape to the point with the first adjacent index signal, and starts playback 5 seconds before searching for the next index signal. This operating continues until all index signals have been found in the selected direction.

- **SHUTTLE**

During playback, each time press the SHUTTLE button, the picture speed will be changed as follows. Slow motion-still -1 to -11 times speed. During playback, each time press the SHUTTLE button, the picture speed will be changed -11 times speed picture.

- **MULTI ON - SCREEN DISPLAY**

On-screen display system for timer programming and mode display. It is possible to select one among 5 languages ; German, Spanish, English, Italian, France.

- **AUTOMATIC DIGITAL TRACKING**

Adjusts the tracking automatically to obtain the best tracking position. When a cassette is inserted the DIGITAL TRACKING will function until the tracking is set.

- **Unattended (Timer) Recording**

The programmable timer can be preselected up to one month in advance to record up to 4 preselected programs. (Normal program, daily program or weekly program)
The timer turns VCR on and off, and changes channels automatically.

- **OTR (One Touch Recording)**

It is possible to record up to 9 hours without programming the timer. It is also possible to start (continue) recording immediately.

- **LTC (Linear Time Counter)**

This function resets the counter when front loading starts after inserting a tape. Linear time counter indicates the elapsed time of the tape running as second.

- **Double Speed Playback**

Pushing PLAY button again in the playback mode, picture search is performed 2 times as fast as normal playback.

- **Frame Advance**

This function can be advanced one by one frame by pushing P/S button.

- **SLOW (Various Slow Motion Playback)**

This is for adjustment of the slow speed operation in playback.

- **Warp Search**

It is possible to search the picture during rewinding or fast forward the tape.

- **AUDIO DUBBING**

Audio dubbing is the process of recording new audio in place of the audio that was formerly recorded on the linear (monaural) audio track.

- **CHILD LOCK (SAFETY LOCK) SYSTEM**

Child lock system can be looked the VCR to prevent by young childran. This feature can be operated by the remore control in ehect mode only. If this system is operated, the tape can't be inserted.

- **Q. PRO (Quick-Program)**

The Quick-Program is a faster method of programming the recorder for timer recording.

- **SHOW VIEW**

This programming system greatly simplifies timer programming because you won't have to enter all data that is usually necessary.
(Such as date, start and stop time, channel)

1-4. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENT

⋇ The following procedures are recommended for the replacement of the leadless components used in this unit.

1. Preparation for replacement

a. Soldering Iron
Use a pencil-type soldering iron that uses less than 30 watts.

b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
Do not apply heat more than 4 seconds.

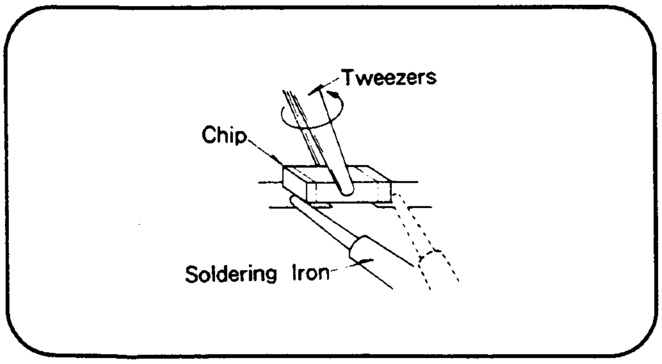
d. Preheating
Leadless capacitor must be preheated before installation. (130° C~150° C, for about two minutes).

> Note :
> a. Leadless component must not be reused after removal.
> b. Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component (Resistors, Capacitors)

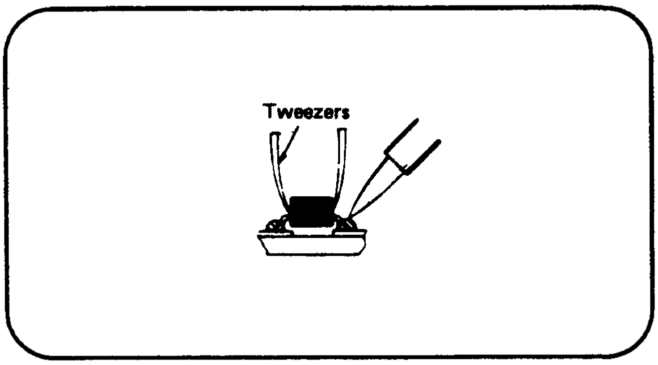
Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

> Note :
> a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twising action.
> b. Take care not to break the copper foil on printed board.

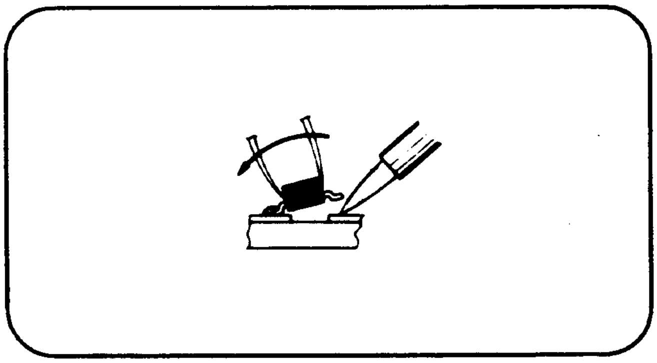


3. Removing the chip component (Transistors, Diodes)

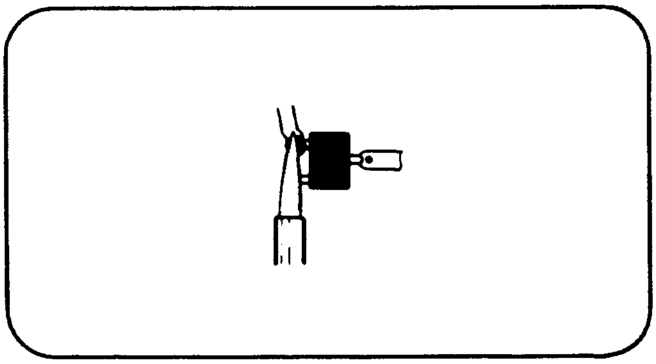
1) Melt the solder of one lead.



2) Lift the side of that lead upward.

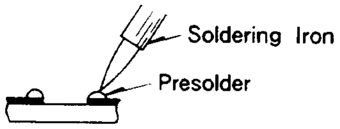


3) Simultaneously heat solder of the two remaining leads and lift part to remove.



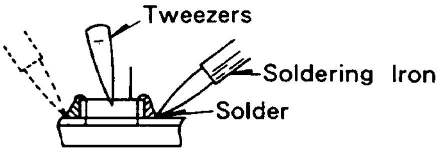
4. Installing the Leadless (chip) Component

1) Presolder the contact points of the circuit board.


Soldering Iron
Presolder

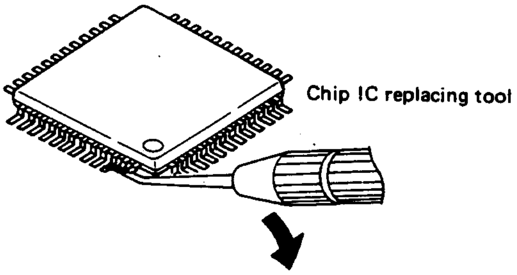
2) Press the part downward with tweezers and solder both electrodes as shown below.

Note :
Do not glue the replacement leadless component to the circuit board.


Tweezers
Soldering Iron
Solder

5. Removing of Flate ICs
(Recommendable manner)

1) For removing solder chips from IC's pins, use a solder remover or a wiry solder absorber.
2) Heat the IC's tips evenly by moving the chip IC replacing tool around them, and detach the IC's leads with a tool in the way of using a lever.
3) Do not reuse ICs removed once (Discard them).


Chip IC replacing tool

1-5. HOW TO READ LEADLESS (CHIP) COMPONENT VALUE

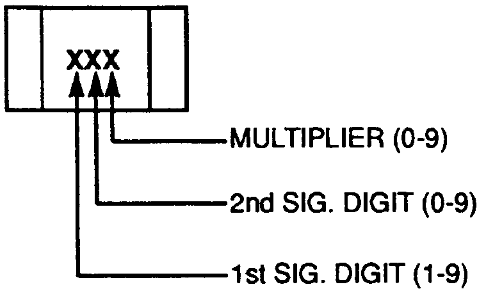
1. Check the followings before S.M.D Troubleshooting

- Cracked or Chipped Component Body
- Cracked or Separated Solder Joints
- Peeling end Terminations or Fractured Leads
- Rejection of Solder from Copper Pads or Component
- Foreign Matter on Copper Pads
- Solder Bridges

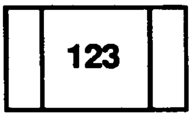
2. S.M.D (Surface Mounted Devices) Identification

1) Chip Resistor Identification

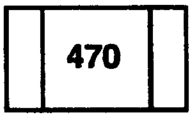
※ Standard Chip Resistor Code


XXX
MULTIPLIER (0-9)
2nd SIG. DIGIT (0-9)
1st SIG. DIGIT (1-9)

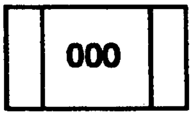
Examples



= 12 x 10^3(1000) = 12000 Ω
= 12K Ω



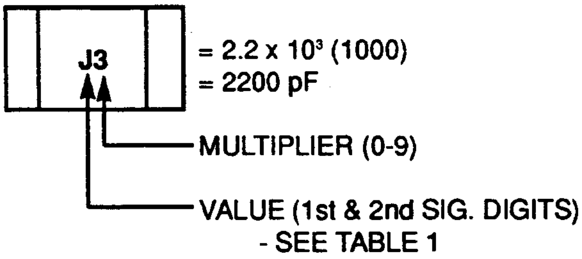
= 47 x 10^0 (1) = 47 Ω



= CHIP JUMPER = 0 Ω

2) Chip Capacitor Identification

※ Standard Two Place Code


J3
MULTIPLIER (0-9)
VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 1

= 2.2 x 10^3 (1000)
= 2200 pF

Examples

S2 = 4.7 x 100 = 470 pF

b0 = 3.5 x 1.0 = 3.5 pF

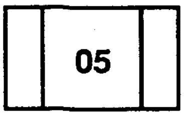
Note : Ceramic chip capacitor is no marking.

VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS										MULTIPLIER
A	1.0	H	2.0	b	3.5	f	5.0	X	7.5	0 = x 1.0
B	1.1	J	2.2	p	3.6	T	5.1	t	8.0	1 = x 10
C	1.2	K	2.4	Q	3.9	U	5.6	Y	8.2	2 = x 100
D	1.3	a	2.5	d	4.0	m	6.0	y	9.0	3 = x 1000
E	1.5	L	2.7	R	4.3	V	6.2	Z	9.1	4 = x 10000
F	1.6	M	3.0	e	4.5	W	6.8			5 = x 100000 etc.
G	1.8	N	3.3	S	4.7	n	7.0			

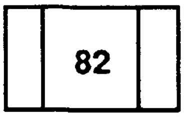
----- TABLE 1 -----

※ Alternate Two Place Code

- Values below 100 pF - Value Read Directly

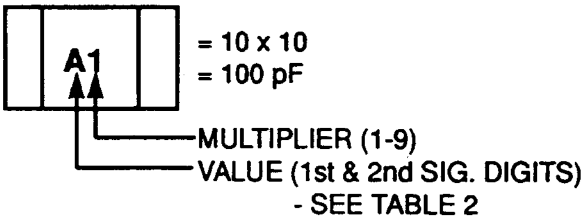


= 5 pF

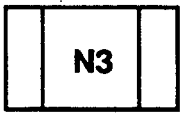


= 82 pF

- Values 100 pF and above - Letter / Number Code


A1
MULTIPLIER (1-9)
VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 2

= 10 x 10
= 100 pF

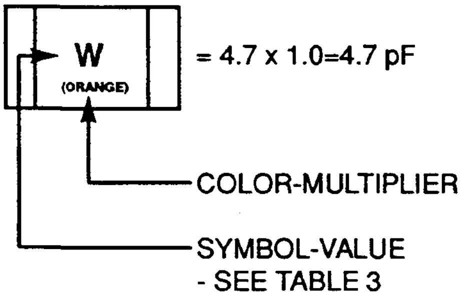


= 33 x 1000
= 33000 pF
= 0.33 uF

VALUE (24 VALUE SYMBOLS) - UPPERCASE LETTERS ONLY					MULTIPLIER
A — 10	F — 16	L — 27	R — 43	W — 68	1 = x 10
B — 11	G — 18	M — 30	S — 47	X — 75	2 = x 100
C — 12	H — 20	N — 33	T — 51	Y — 82	3 = x 1000
D — 13	J — 22	P — 36	U — 56	Z — 91	4 = x 10000
E — 15	K — 24	Q — 39	V — 62		5 = x 100000 etc.

----- **TABLE 2** -----

※ Standard Single Place Code


W
(ORANGE)
COLOR-MULTIPLIER
SYMBOL-VALUE
- SEE TABLE 3

= 4.7 x 1.0=4.7 pF

Examples

R (Green) = 3.3 x 100 = 330 pF

7 (Blue) = 8.2 x 1000 = 8200 pF

VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS					MULTIPLIER
A — 1.0	H — 1.6	N — 2.7	V — 4.3	3 — 6.8	ORANGE = x 1.0
B — 1.1	I — 1.8	O — 3.0	W — 4.7	4 — 7.5	BLACK = x 10
C — 1.2	J — 2.0	R — 3.3	X — 5.1	7 — 8.2	GREEN = x 100
D — 1.3	K — 2.2	S — 3.6	Y — 5.6	9 — 9.1	BLUE = x 1000
E — 1.5	L — 2.4	T — 3.9	Z — 6.2		VIOLET = x 10000
					RED = x 100000

----- **TABLE 3** -----

1-6. CLEANING AND LUBRICATION

1-6-1. CLEANING TAPE MECHANISM

Periodic cleaning is necessary to insure continued excellent performance of the tape mechanism. To clean the following parts, patch and solvent are available.

1. Capstan shaft.
2. All tape guide posts.
3. Clitch pulley.
4. Pinch roller.
5. Belt capstan.
6. Capstan motor pulley.

1-6-2. CLEANING OF ROTATING & STATIONARY HEADS

To clean video heads, full erase head, audio/control (A/C) head we recommend to use head cleaning kit and solvent.

Note : When cleaning video heads, move the cleaning stick in the direction of head rotation. Wiping in a vertical direction may damage the heads.

Press a chamois cloth which has been dipped in cleaning fluid lightly against the rotating cylinder assembly, then do the cleaning by slowly rotaing upper cylinder ass'y by hand.

Note : Never try to clean by using the motor to turn the cylinder ass'y.

1-6-3. LUBRICATING TAPE MECHANISM

The tape transport mechanism is properly lubricated at the factory.
In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on the frequency of use and environmental conditions, periodic lubrication may be required.
When relubricating, remove old lubricant first, then sparingly apply new lubricant.(Excessive lubricant may be transferred to other assemblies causing malfunction).

Use grease on the following parts every 1,000 hours of operations. (See exploded view for location)

1. Between base pole assembly (L, R) and main base.
2. Gear escalator.
3. Gear E/J drive.
4. Gear loading L, R.
5. Slide main.
6. Lever tension control.
7. Lever shift.

Oil may be required for the following parts after 1,000 hours of operation.(See exploded view for location)

Main base
1. Arm tension molding.
2. Shaft reel disk L, R molding.
3. Shaft gear relay T, S1, S2, S3 molding.
4. Shaft clutch.
5. Shaft gear review.

Other parts which are not listed above do not require lubrication, except when parts are replaced.
Use appropriate oil or grease as indicated on exploded view.

1-7. ABBREVIATIONS

X2 : Double
4.43MHz : Color Sub Carrier

ACC : Automatic Color Circuit
ACK : Automatic Color Killer
ADD : Adder
AFC : Automatic Frequency Control
AFT : Automatic Fine Tuning
AGC : Automatic Gain Control
ALC : Automatic Level Control
AMP : Amplifier
APC : Automatic Phase Control
AUX : Auxiliary

BATT : Battery
BD : Burst Deemphasis
BE : Burst Emphasis
BH : Power Supply for Selecting VHF High Band
BL : Power Supply for Selecting VHF Low Band
BPF : Band Pass Filter

C.FG : Capstan Frequency Generator
C.SYNC : Composite Sync
CAFC : Capstan Auto Frequency Control
CAPC : Capstan Auto Phase Control
CATV : Cable TV
CAR : Carrier
CAP : Capstan
CCD : Charge Coupled Device
CH : Channel
CHAR. : Character
CHROMA : Chrominance
CM : Capstan Motor
COMP : Comparator
CST : Cassette
C-ERR : Capstan Error
CTL : Control
C.PG : Capstan Pulse Generator
CUR.EMPH : Current Emphasis

D.FG : Drum Frequency Generator
D.O.C : Drop Out Compensator
D.PG : Drum Pulse Generator
D/A : Digital-to-Analog
D/C : Dark/Clip
D.AFC : Drum Auto Frequency Control
D.APC : Drum Auto Phase Control
DE-EMPH : De-Emphasis
DET : Detector
DEV : Deviation
DLYD : Delayed
DM : Drum Motor
DEMOD : Demodulator
D.D : Direct Drive

E-E : Electronic-to Electronic
EMPH : Emphasis
ENV : Envelope
EQ : Equalizer
EPS : Easy Programming System

F.ADV : Frame Advance
F-V : Frequency to Voltage Converter
F.FWD : Fast Forward
FH : Frequency Horizontal
FG : Frequency Generator
FM : Frequency Modulator
FSC : Frequency Sub Carrier
FWD : Forward
FC : Frequency Center
FL : Frequency Low

GEN : Generator
GND : Ground

HPF : High Pass Filter

IF : Intermediate Frequency
IR : Infrared Receiver

LED : Light Emitting Diode
LIM : Limiter
LPF : Low Pass Filter
LUMA : Luminance
LCD : Liquid Crystal Display
LNR : Linear

MIX : Mixer
MM : Monostable Multivibrator
MTS : Multi Channel TV Sound
MEM : Memory
MFT : Manual Fine Tuning

N.C : No Connection

OSC : Oscillator
OTR : One Touch Recording
OSP : On Screen Programme
OSD : On Screen Display

PB : Play Back
P.C : Power Control
PG : Pulse Generator
PIF : Picture Intermediate Frequency
PLL : Phase Lock Loop
PRG : Programme
PWM : Pulse Width Modulation
PWR : Power
P/S : Pause/Still
PD : Power Detector

Q.PRO : Quick-Program

REG : Regulator
REC : Record
REC.SAF : Record Safety
REW : Rewind
RF : Radio Frequency
REV : Reverse
RECT : Rectifier
REF : Reference

SC : Simul-Cast
SC : Sub-Carrier
SCK : Shift Clock
SDA : Serial Data
SIF : Sound Intermediate Frequency
S.M.D : Surface Mounted Devices
S.M.P.S : Switching Mode Power Supply
SP : Standard Play
SW25Hz : Head Switching Pulse
SYNC : Synchronizing Signal
SYSCON : System Control
STB : Strobe
SI : Serial Input
SO : Serial Output
SW : Switch

TP : Test Point
TRK : Tracking

UL : Unloading

VT : Voltage Tuning
VLP : Vertical Lock Pulse
V-REF : Voltage Reference
V-SYNC : Vertical Sync
VCO : Voltage Controlled Oscillator
VCR : Video Cassette Recorder
VIF : Video Intermediate Frequency
VPS : Video Programming System
VHS : Video Home System
VXO : Voltage Controlled Crystal Oscillator
VSS : Voltage Super Source
VISS : VHS Index Search System

W/C : White /Clip
W/D : White/Dark

Y/C : Luminance/Chrominance

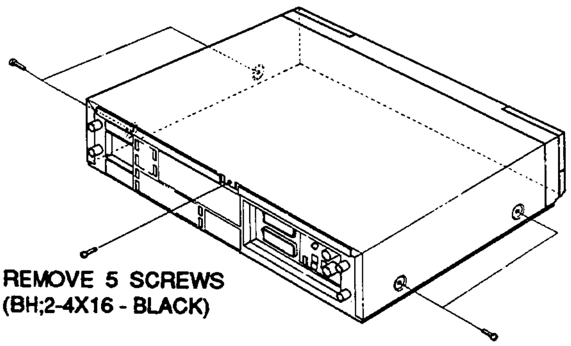
uP : Microprocessor

2. DISASSEMBLY

2-1. INSTRUMENT DISASSEMBLY

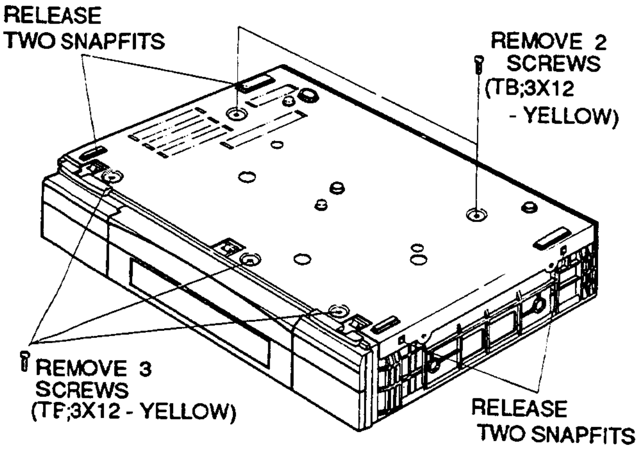
In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.

2-1-1. Top Cabinet Removal



REMOVE 5 SCREWS
(BH;2-4X16 - BLACK)

2-1-2. Bottom Cover Removal



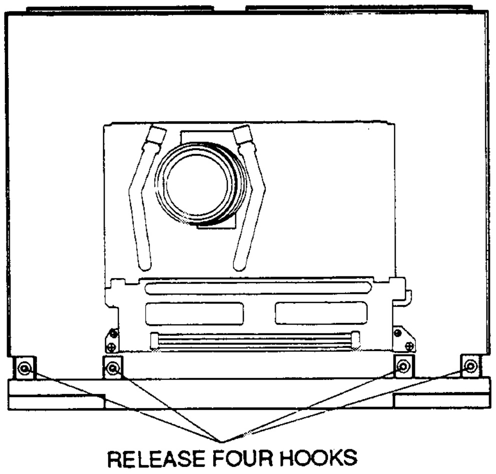
RELEASE
TWO SNAPFITS

REMOVE 2
SCREWS
(TB;3X12
- YELLOW)

REMOVE 3
SCREWS
(TF;3X12 - YELLOW)

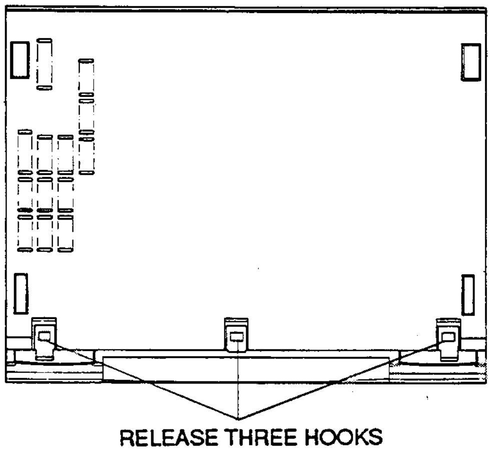
RELEASE
TWO SNAPFITS

2-1-3. Panel Front Removal



RELEASE FOUR HOOKS

(Top View)



RELEASE THREE HOOKS

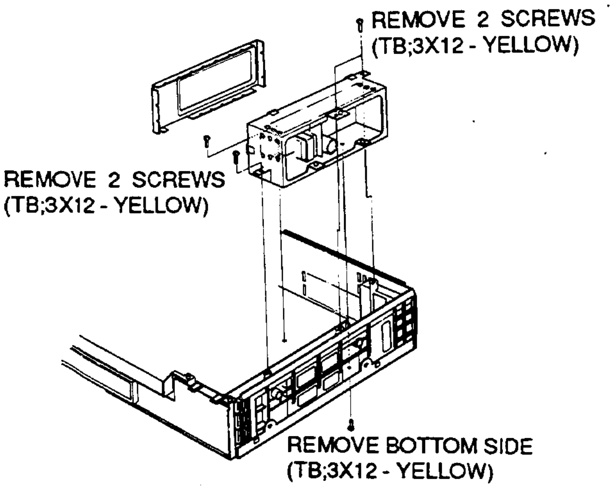
(Bottom View)

2-2. CIRCUIT BOARD DISASSEMBLY

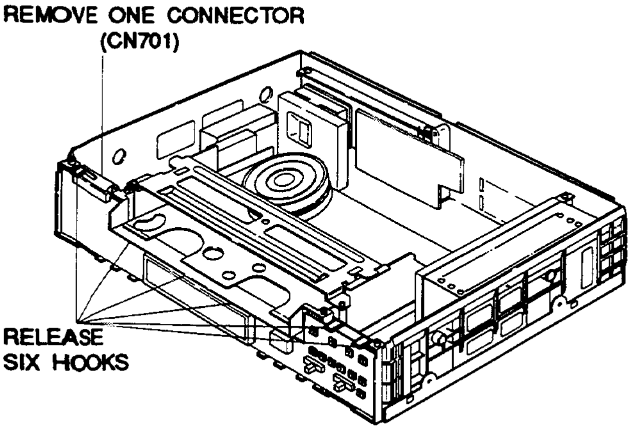
Note :

1. When removing chassis unit assembly, take extreme care not to damage the Main PCB front.
2. When reinstalling Deck on the Main PCB, take extreme care not to damage sensor.

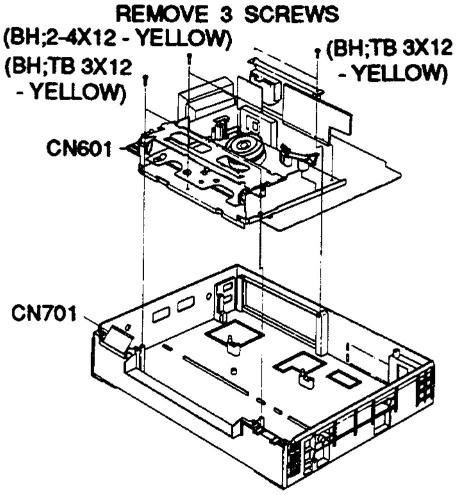
2-2-1. Regulator Ass'y Removal


REMOVE 2 SCREWS
(TB;3X12 - YELLOW)
REMOVE 2 SCREWS
(TB;3X12 - YELLOW)
REMOVE BOTTOM SIDE
(TB;3X12 - YELLOW)

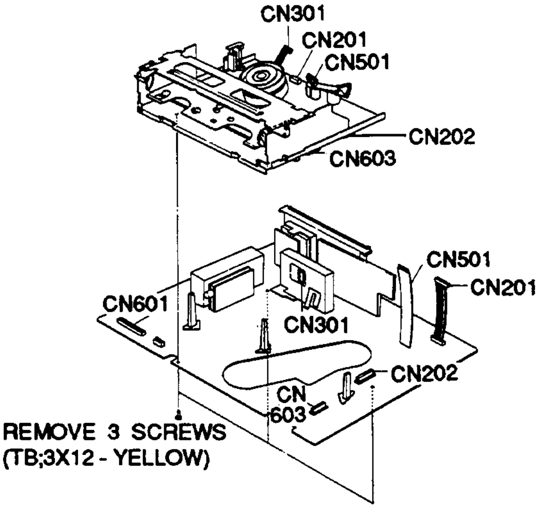
2-2-2. Function/Timer Circuit Board Removal


REMOVE ONE CONNECTOR
(CN701)
RELEASE
SIX HOOKS

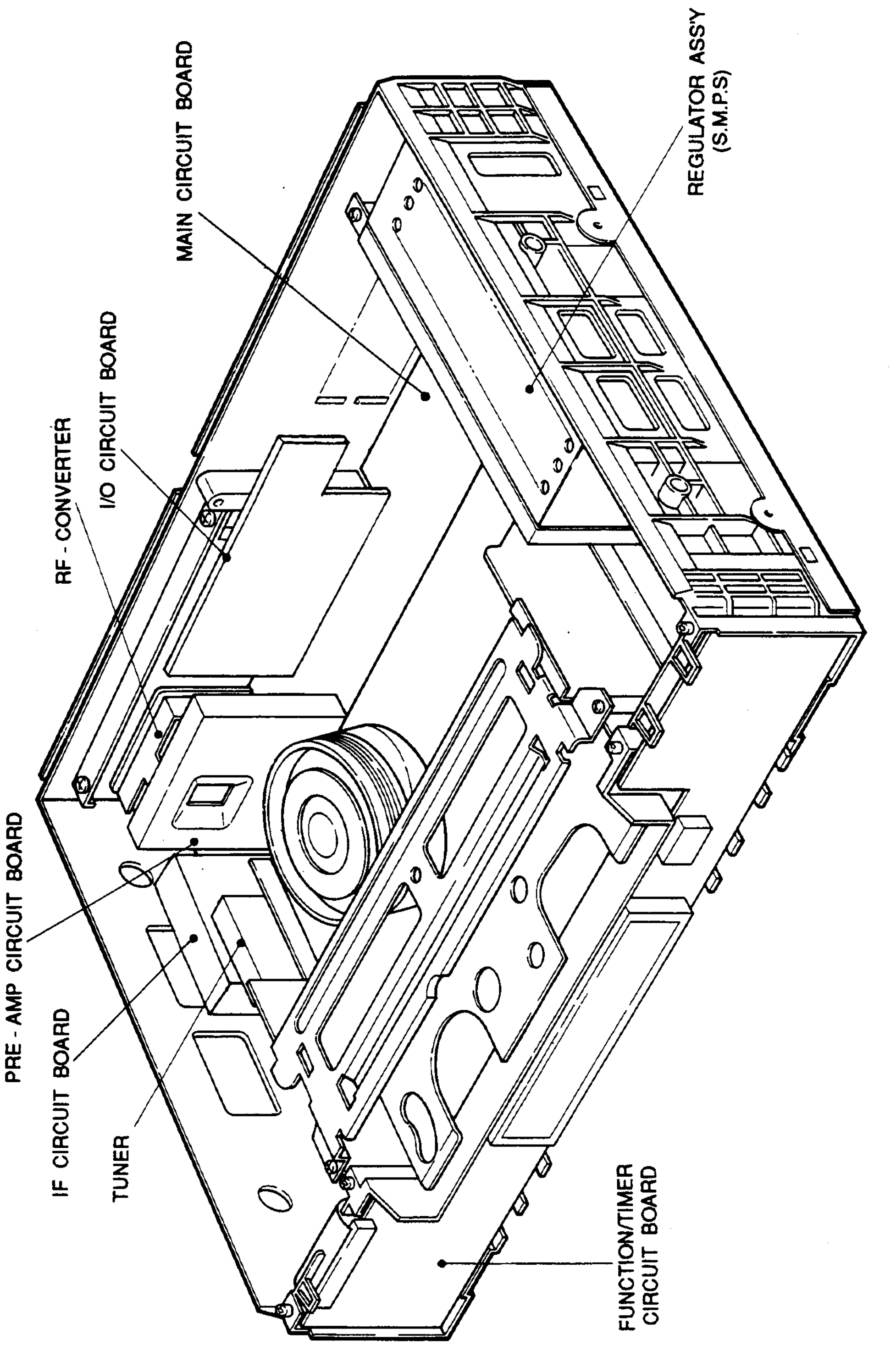
2-2-3. Chassis Unit Removal


REMOVE 3 SCREWS
(BH;2-4X12 - YELLOW)
(BH;TB 3X12
- YELLOW)
(BH;TB 3X12
- YELLOW)
CN601
CN701

2-2-4. Main Circuit Board Removal


CN301
CN201
CN501
CN202
CN603
CN501
CN201
CN601
CN301
CN202
CN
603
REMOVE 3 SCREWS
(TB;3X12 - YELLOW)

* Circuit Boards Location


MAIN CIRCUIT BOARD
REGULATOR ASS'Y (S.M.P.S)
I/O CIRCUIT BOARD
RF - CONVERTER
PRE - AMP CIRCUIT BOARD
IF CIRCUIT BOARD
TUNER
FUNCTION/TIMER CIRCUIT BOARD

2-3. TAPE TRANSPORT MECHANISM IDENTIFICATION

2-3-1. Top View

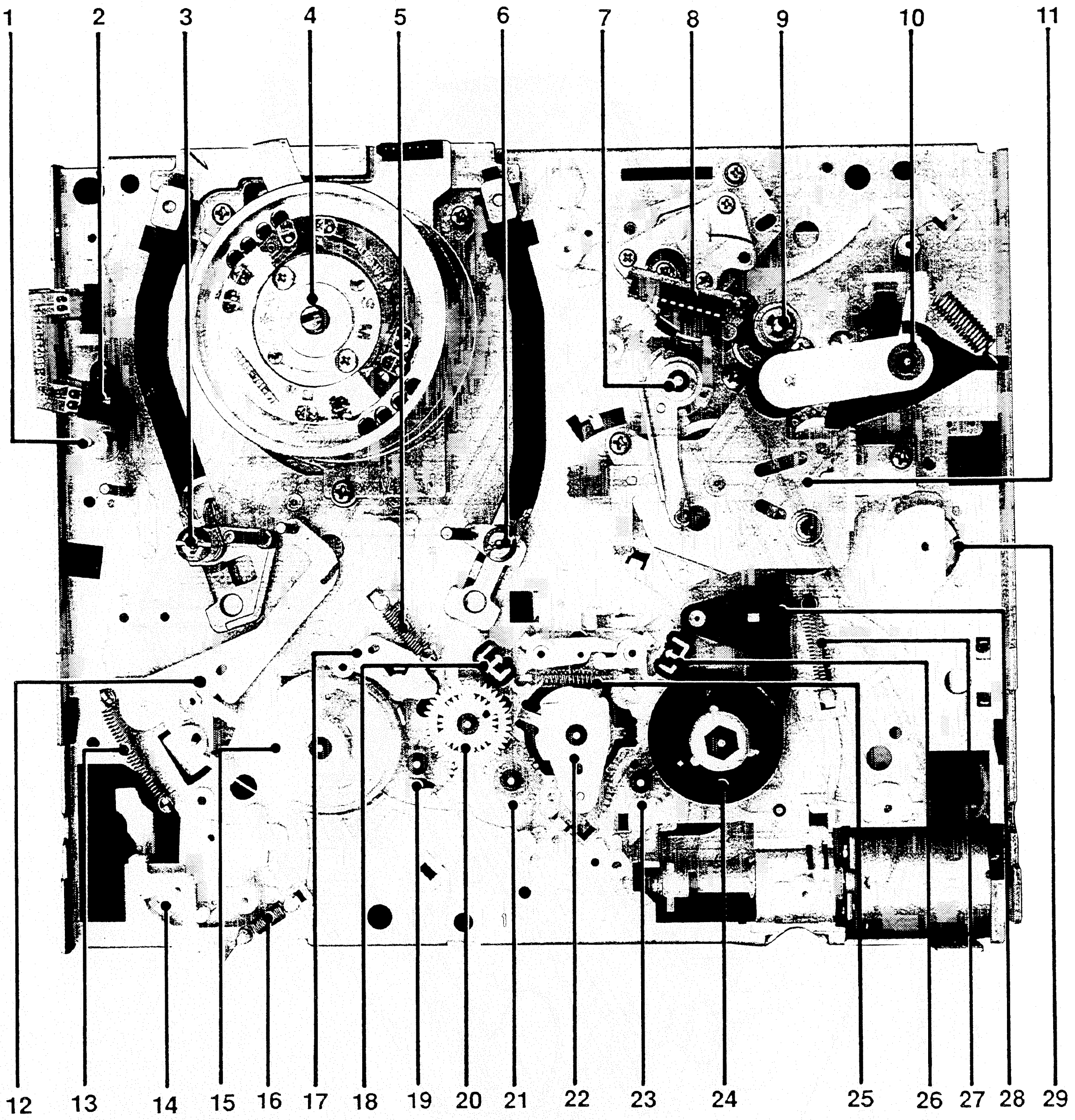


Fig. 1 Tape Transport Mechanism - Top View

1. SUPPLY ROLLER
2. F/E HEAD ASS'Y
3. P.B & G.R (L)
4. CYLINDER ASS'Y
5. S/P BRAKE SUB "L"
6. P.B & G.R (R)
7. REVIEW ARM ASS'Y
8. A/C HEAD ASS'Y
9. CAPSTAN SHAFT
10. PINCH ROLLER UNIT
11. UNIT DRIVE PINCH
12. ARM TENSION ASS'Y
13. SPRING TENSION
14. LEVER REC S/W
15. REEL DISK "L"
16. S/P RECORD S/W
17. BRAKE SUB "L"
18. BRAKE MAIN "L" ASS'Y
19. GEAR RELAY S3
20. GEAR RELAY S2
21. GEAR RELAY S1
22. IDLER SUB ASS'Y
23. GEAR RELAY "T"
24. REEL DISK "R"
25. S/P BRAKE MAIN
26. BRAKE MAIN "R" ASS'Y
27. S/P BRAKE SUB "R"
28. BRAKE SUB "R" ASS'Y
29. GEAR EJECT DRIVE

2-3-2. Bottom View

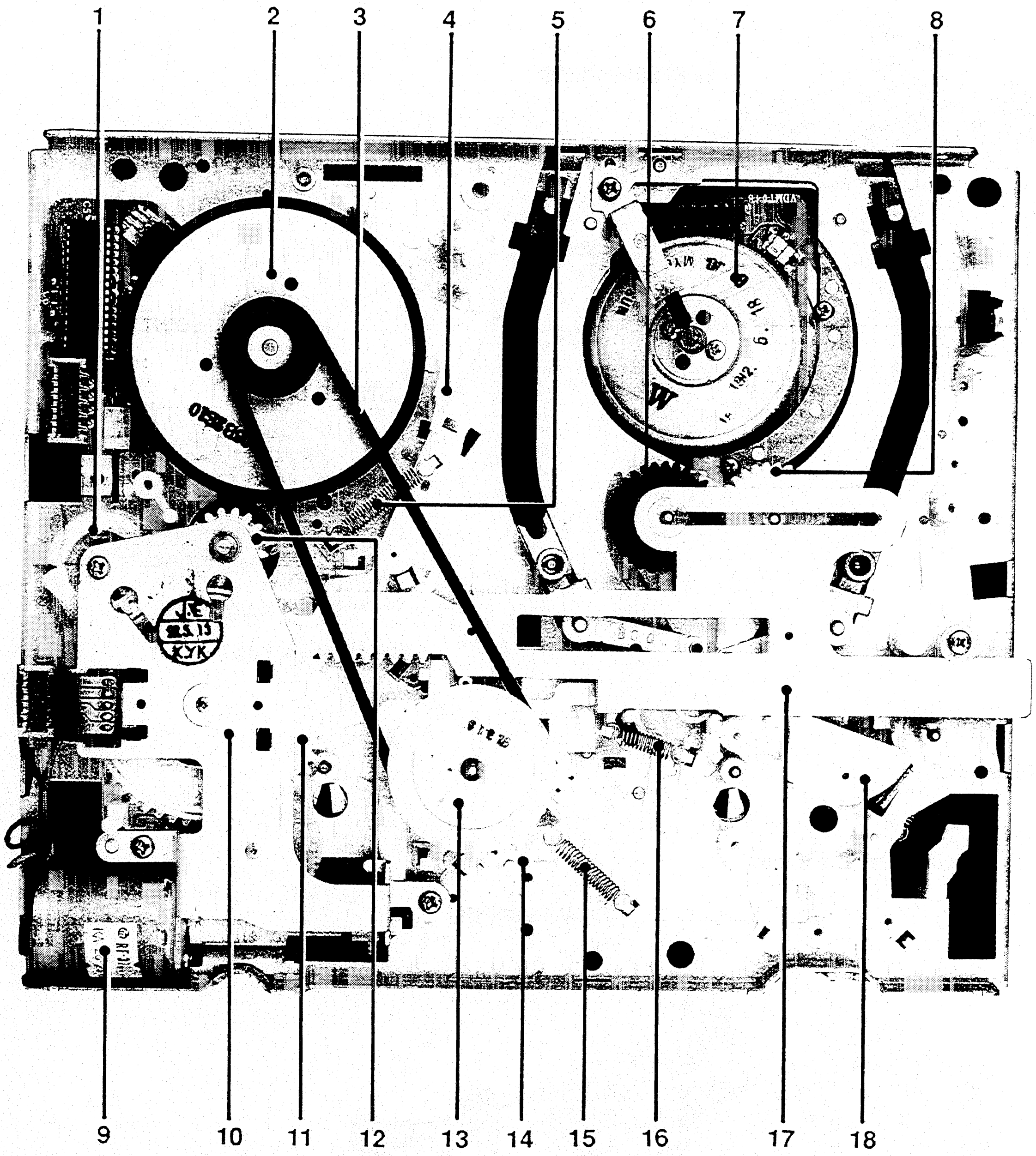


Fig. 2 Tape Transport Mechanism - Bottom View

1. GEAR EJECT DRIVE
2. MOTOR D/D CAPSTAN
3. BELT CAPSTAN
4. BRAKE D/D CAPSTAN
5. S/P BRAKE CAPSTAN
6. GEAR LOADING "R"
7. CYLINDER MOTOR
8. GEAR LOADING "L"
9. MOTOR LOADING
10. LOADING UNIT ASS'Y
11. GEAR MASTER
12. GEAR RELAY PINCH
13. CLUTCH ASS'Y
14. LEVER SHIFT
15. S/P BRAKE SUB "R"
16. S/P RELEASE BRAKE
17. SLIDE MAIN
18. LEVER TENSION CONTROL

2-4. HOUSING ASS'Y REMOVAL & REASSEMBLY

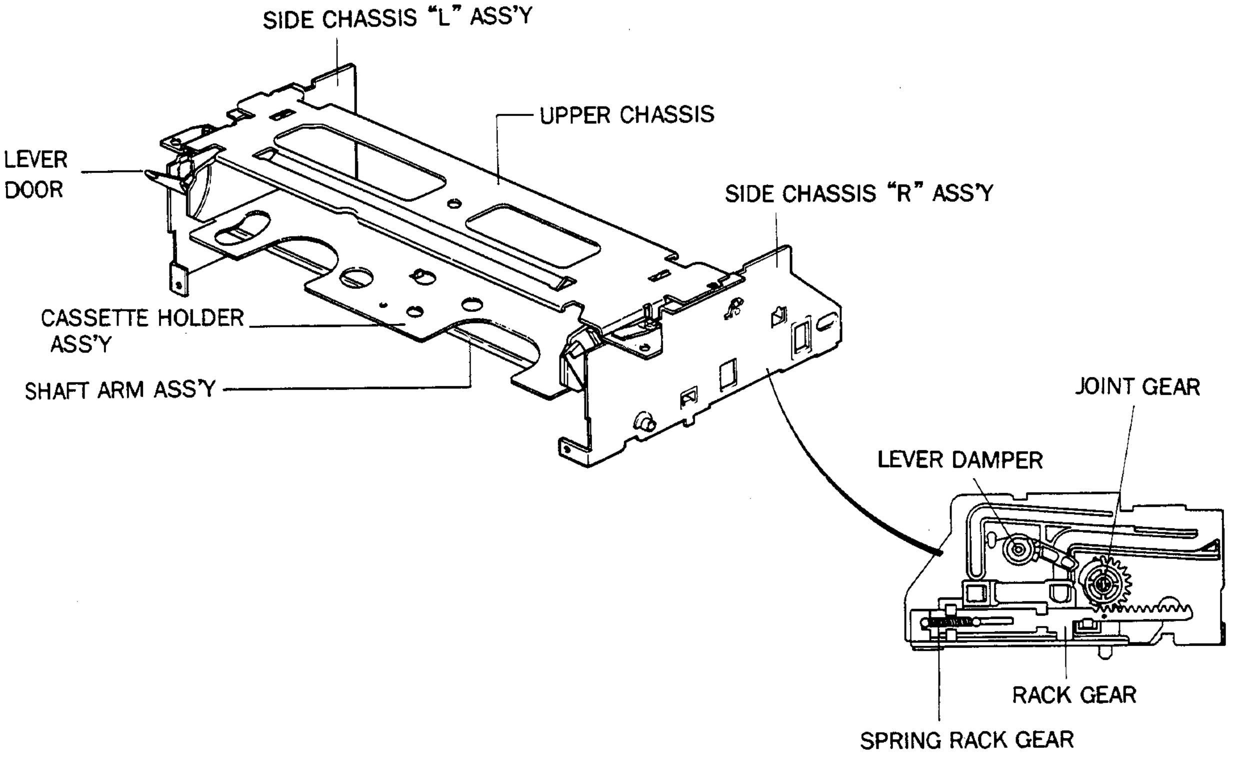

SIDE CHASSIS "L" ASS'Y
UPPER CHASSIS
LEVER
DOOR
SIDE CHASSIS "R" ASS'Y
CASSETTE HOLDER
ASS'Y
SHAFT ARM ASS'Y
JOINT GEAR
LEVER DAMPER
RACK GEAR
SPRING RACK GEAR

Fig. 3 Housing Ass'y Identification

2-4-1. Housing Ass'y Removal

1. Remove four (4) screws ①, ②.
2. Lift up the housing ass'y in the direction of arrow.

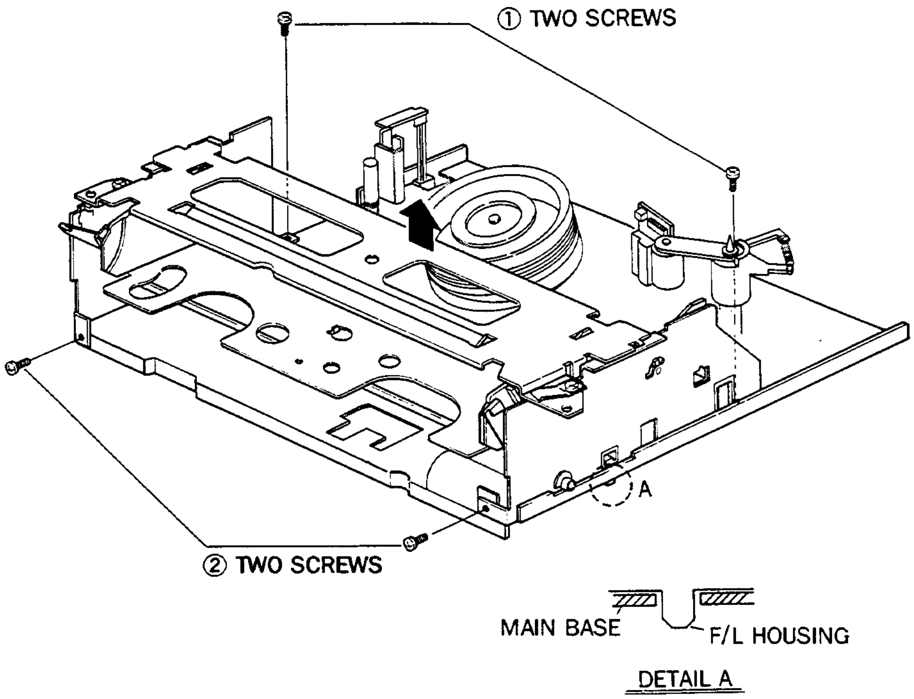

① TWO SCREWS
② TWO SCREWS
A
MAIN BASE
F/L HOUSING
DETAIL A

Fig. 4 Housing Ass'y Removal

2-4-2. Cassette Holder Ass'y & Side Chassis "L", "R" Removal

1. Remove two (2) screws ①.
2. Lift up the upper chassis ② and the cassette holder ass'y ③ in the direction of arrow (A).
3. Remove the side chassis "L", "R" ④, ⑤ from the shaft arm ass'y in the direction of arrows (B).

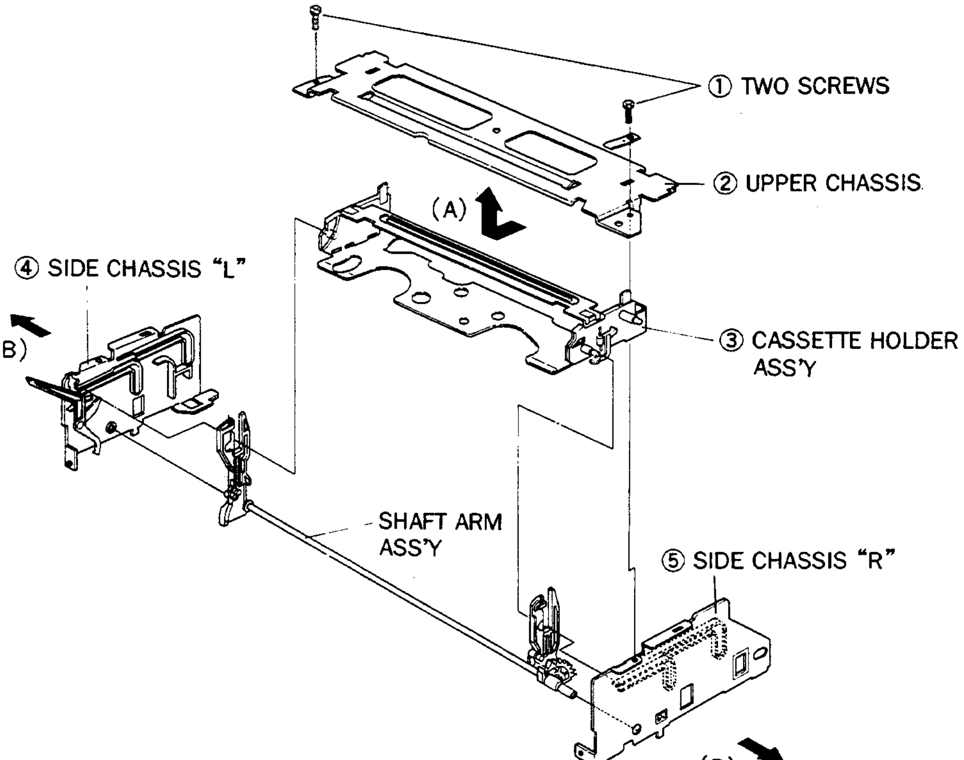

① TWO SCREWS
② UPPER CHASSIS
(A)
④ SIDE CHASSIS "L"
(B)
③ CASSETTE HOLDER ASS'Y
SHAFT ARM ASS'Y
⑤ SIDE CHASSIS "R"
(B)

Fig. 5 Cassette Holder Ass'y & Side Chassis "L", "R" Removal

2-4-3. Joint Gear & Rack Gear Removal

1. Pull the rack gear ① in the direction of arrow (A) to the end.
2. Remove one screw ② and then the joint gear ③.
3. Remove the rack gear ① toward arrow (B).

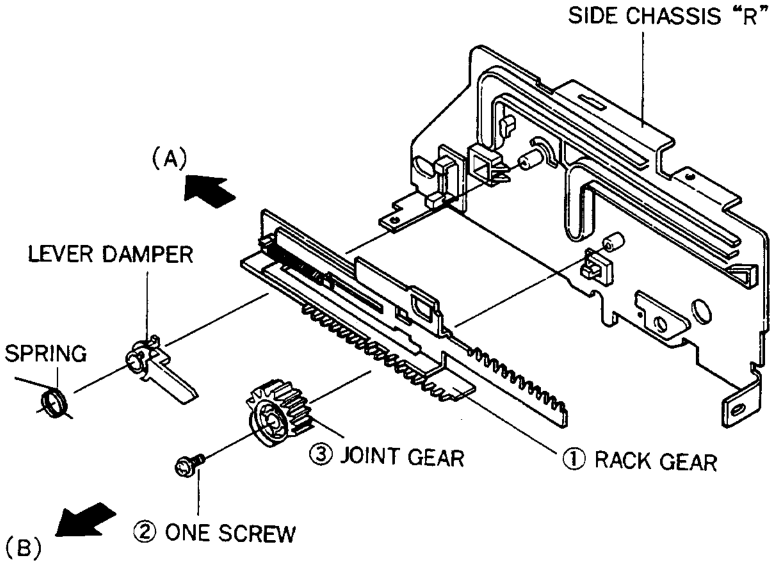

SIDE CHASSIS "R"
(A)
LEVER DAMPER
SPRING
③ JOINT GEAR
① RACK GEAR
(B)
② ONE SCREW

Fig. 6 Joint Gear & Rack Gear Removal

2-4-4. Reinstallation of Rack Gear and Joint Gear

Reinstallation and Timing of Rack Gear and Joint Gear

1. Assemble the rack gear ① to the side chassis "R".
2. Pull the rack gear ① in the direction of arrow to the end.
3. Install the joint gear so that the slot #1 of joint gear ② is aligned with the tooth #1 of rack gear ①.
4. Tighten one (1) screw with the joint gear.

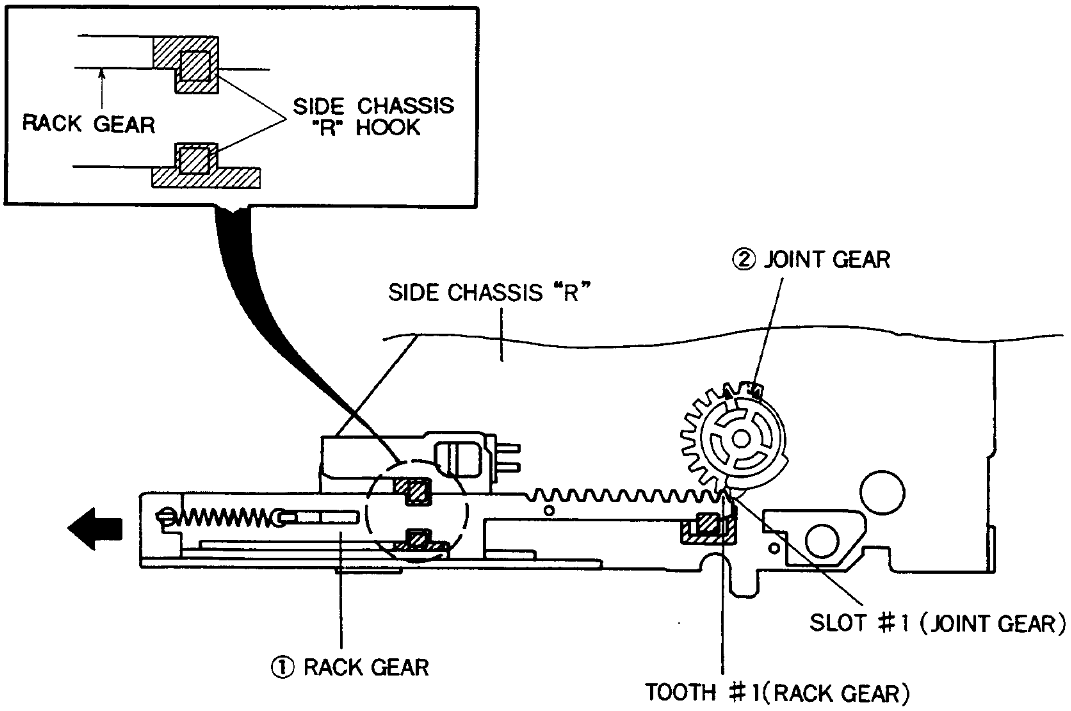

RACK GEAR
SIDE CHASSIS
"R" HOOK
② JOINT GEAR
SIDE CHASSIS "R"
SLOT #1 (JOINT GEAR)
① RACK GEAR
TOOTH #1(RACK GEAR)

Fig. 7 Reinstallation and Timing of Rack Gear and Joint Gear

Timing Confirmation of Rack Gear and Joint Gear (Eject mode)

1. Push the rack gear ① in the direction of arrow to the end.
2. Make sure that the tooth #12 (arrow mark) of joint gear ② and the Timing Point of rack gear ① are aligned correctly as shown in Fig. 8.

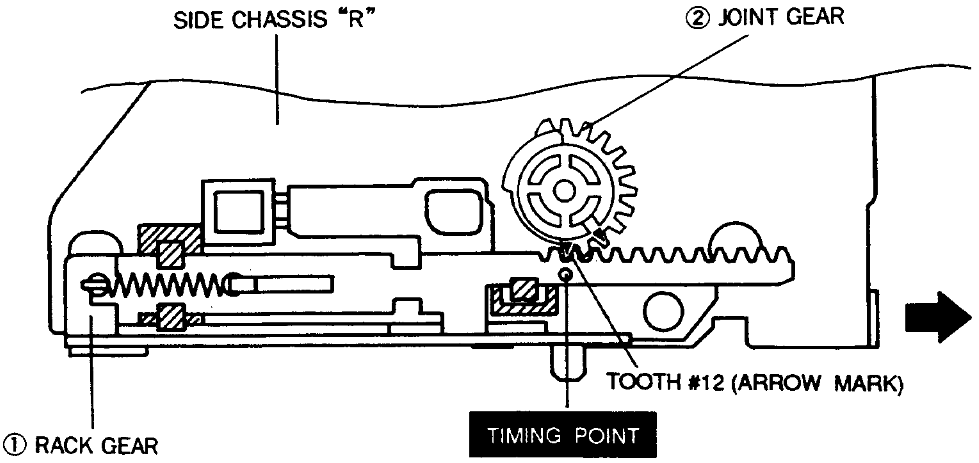

SIDE CHASSIS "R"
② JOINT GEAR
TOOTH #12 (ARROW MARK)
① RACK GEAR
TIMING POINT

Fig. 8 Timing Confirmation of Rack Gear and Joint Gear

2-4-5. Reassembly of Housing Ass'y

1. After pushing the rack gear in direction of arrow to the end, insert the pin of the arm gear into the hole of side chassis "R".
2. Align the slot #1 of the arm gear ① with the tooth #3 of the joint gear ②.(Refer to timing in Fig. 9)
3. Install the side chassis "L" so that the shaft arm pin goes into the hole in the side chassis "L".
4. Turn the shaft arm to up-position and drop the cassette holder into the arm grooves.
5. Install the upper chassis and secure with two (2) screws.

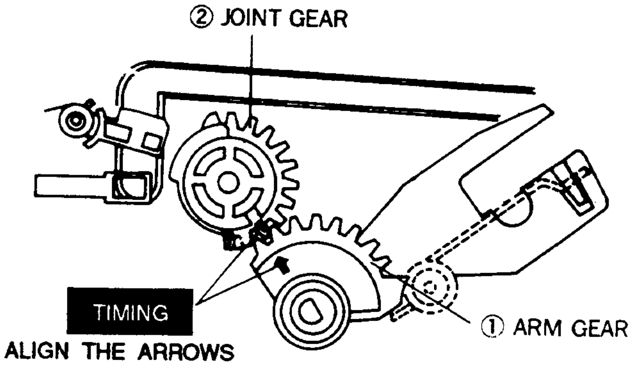
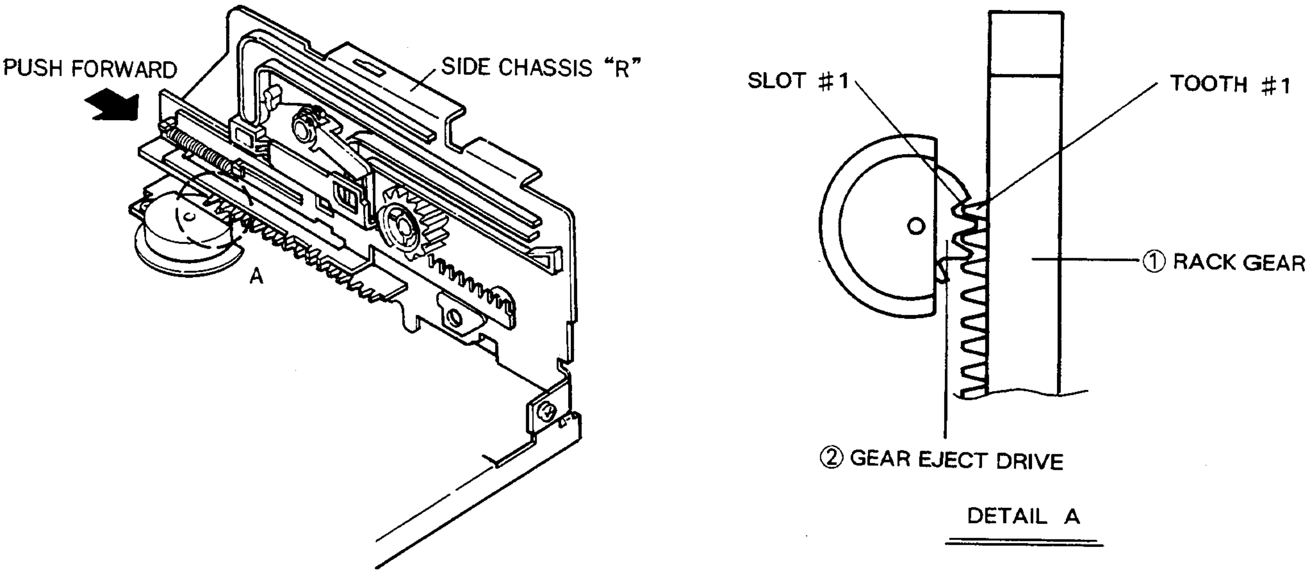

② JOINT GEAR
TIMING
ALIGN THE ARROWS
① ARM GEAR

Fig. 9 Reassembly Joint Gear & Arm Gear

2-4-6. Reinstallation of Housing Ass'y & Deck Ass'y

Note : Make sure deck is in the eject position.

1. Assemble the housing ass'y while pushing the rack gear forward to align the slot #1 of gear eject drive ② and the tooth #1 of rack gear ①. (Refer to Detail A)
2. Install the housing ass'y and then tighten four (4) screws. (See Fig. 4)


PUSH FORWARD
SIDE CHASSIS "R"
A
SLOT #1
TOOTH #1
① RACK GEAR
② GEAR EJECT DRIVE
DETAIL A

(SIDE VIEW)

(TOP VIEW)

Fig. 10 Reinstallation of Housing Ass'y

2-5. CYLINDER ASS'Y REMOVAL & REASSEMBLY

2-5-1. Cylinder Ass'y Removal from Main Base

1. Release the F.P.C cable ① from Pre-Amp PCB (CN301) and disconnect the lead connector ass'y ② from the cylinder PCB.
2. Remove three (3) screws ③ securing the base cylinder and the main base.
3. Lift the cylinder ass'y ④ in the direction of arrow.

> **CAUTION** : Take extreme care when removing the cylinder ass'y. Do not touch the video head tips during servicing.

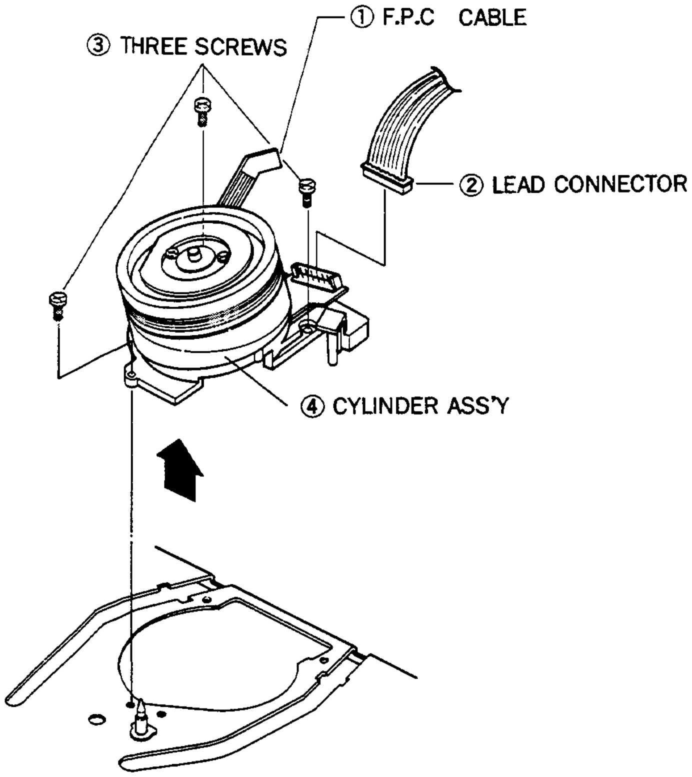

① F.P.C CABLE
③ THREE SCREWS
② LEAD CONNECTOR
④ CYLINDER ASS'Y

Fig. 11 Cylinder Ass'y Removal

2-5-2. Exploded View of Cylinder Ass'y

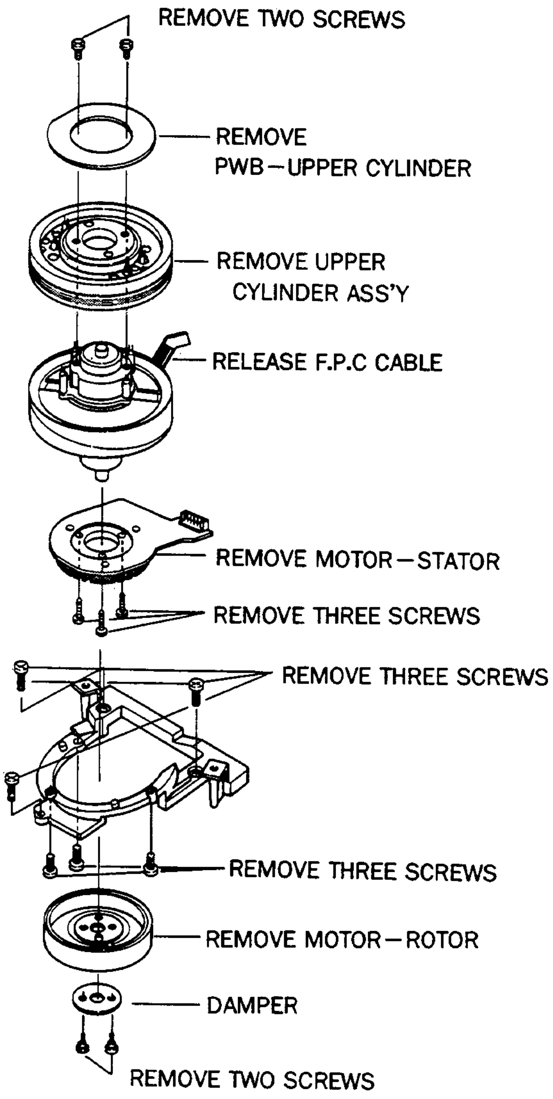

REMOVE TWO SCREWS
REMOVE
PWB–UPPER CYLINDER
REMOVE UPPER
CYLINDER ASS'Y
RELEASE F.P.C CABLE
REMOVE MOTOR–STATOR
REMOVE THREE SCREWS
REMOVE THREE SCREWS
REMOVE THREE SCREWS
REMOVE MOTOR–ROTOR
DAMPER
REMOVE TWO SCREWS

Fig. 12 Exploded View of Cylinder Ass'y

2-5-3. Upper Cylinder Ass'y Removal

1. Remove two (2) screws ① from the upper cylinder ass'y ③.
2. Unsolder the PWB-Upper cylinder ② from the upper cylinder ass'y ③ and remove the upper cylinder ass'y ③ from the cylinder ass'y. (See Fig. 14)

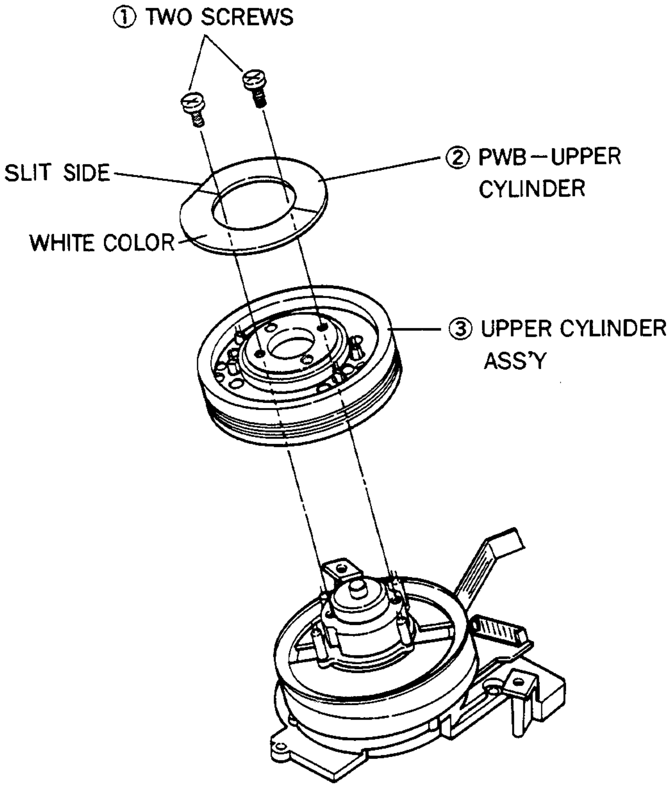

① TWO SCREWS
SLIT SIDE
② PWB−UPPER CYLINDER
WHITE COLOR
③ UPPER CYLINDER ASS'Y

Fig. 13 Upper Cylinder Ass'y Removal

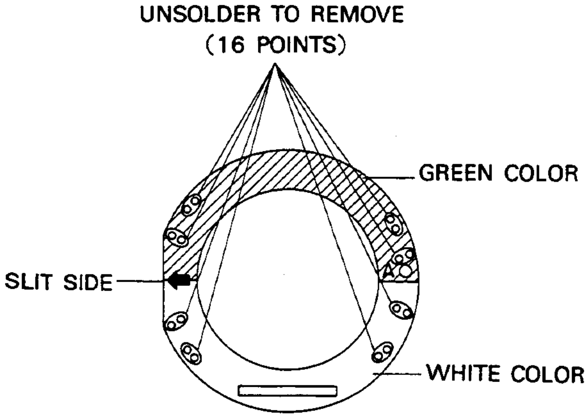

UNSOLDER TO REMOVE (16 POINTS)
GREEN COLOR
SLIT SIDE
WHITE COLOR

Fig. 14 PWB Upper Cylinder Top View

2-5-4. Lower Cylinder Ass'y Removal

1. Remove three (3) screws ① from the base cylinder ②.
2. Lift up the lower cylinder ass'y ③ from the base cylinder ②.

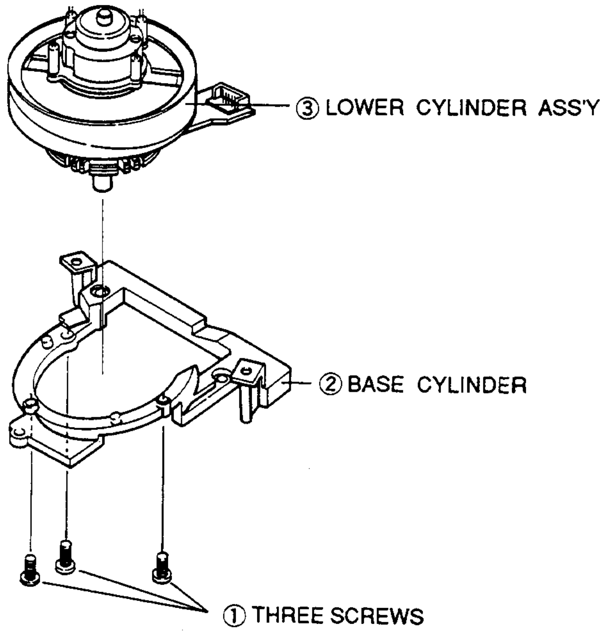

③ LOWER CYLINDER ASS'Y
② BASE CYLINDER
① THREE SCREWS

Fig. 15 Lower Cylinder Ass'y Removal

2-5-5. Cylinder Motor Removal

1. Remove three (3) screws ① from the base cylinder ②.
2. Remove two (2) screws ③ from the damper ④,then remove the damper ④ and the motor-rotor ⑤.
3. Remove three (3) screws ⑥ from the motor-stator ⑦ and take it out.

Note : Mark rotor position to insure correct phase orientation upon reinstallation.

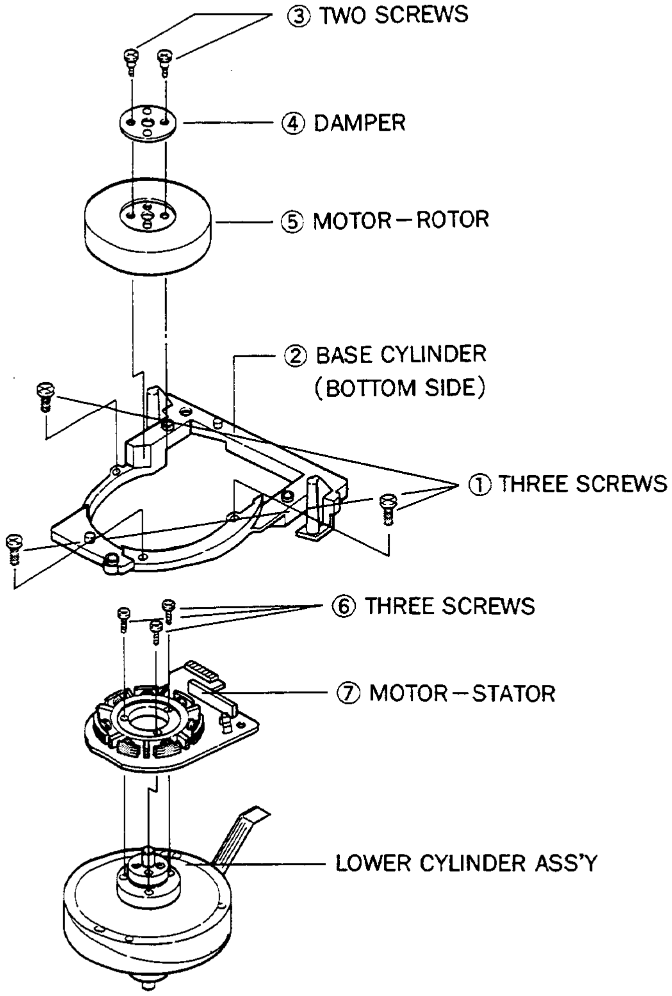

③ TWO SCREWS
④ DAMPER
⑤ MOTOR－ROTOR
② BASE CYLINDER
(BOTTOM SIDE)
① THREE SCREWS
⑥ THREE SCREWS
⑦ MOTOR－STATOR
LOWER CYLINDER ASS'Y

Fig. 16 Cylinder Motor Removal

2-5-6. Assembly of Lower Cylinder

1. Tighten three (3) screws with the motor-stator. (Refer to Fig. 16)
2. Reinstall the motor-rotor, damper and secure with two (2) screws. (Refer to Fig. 16)

Note : Make sure that the hole of bush cylinder on lower cylinder and the hole of motor rotor are aligned correctly as shown in Fig. 17.

3. Reinstall the lower cylinder to the base cylinder and secure with three (3) screws.

Note : Align two (2) base cylinder pin before reinstalling.

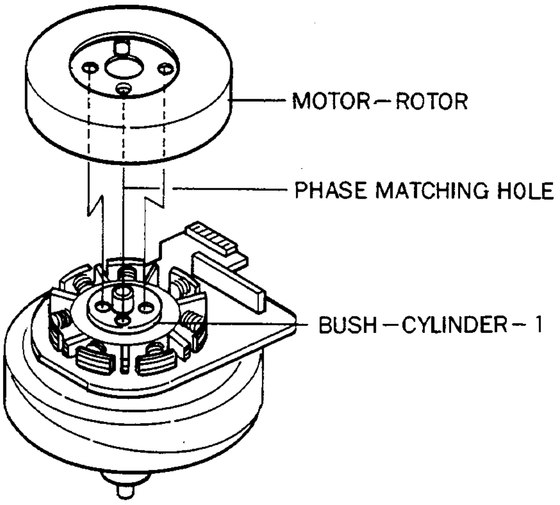

MOTOR－ROTOR
PHASE MATCHING HOLE
BUSH－CYLINDER－1

Fig. 17 Bush Cylinder -1 & Motor Rotor Timing

2-5-7. Assembly of Upper Cylinder

1. When installing the upper cylinder, make sure green color (CH1) goes to CH1 head tip position on lower cylinder.
2. Tighten two (2) screws on the upper cylinder. (Refer to Fig. 13)

Note : Timing of the upper cylinder PCB.

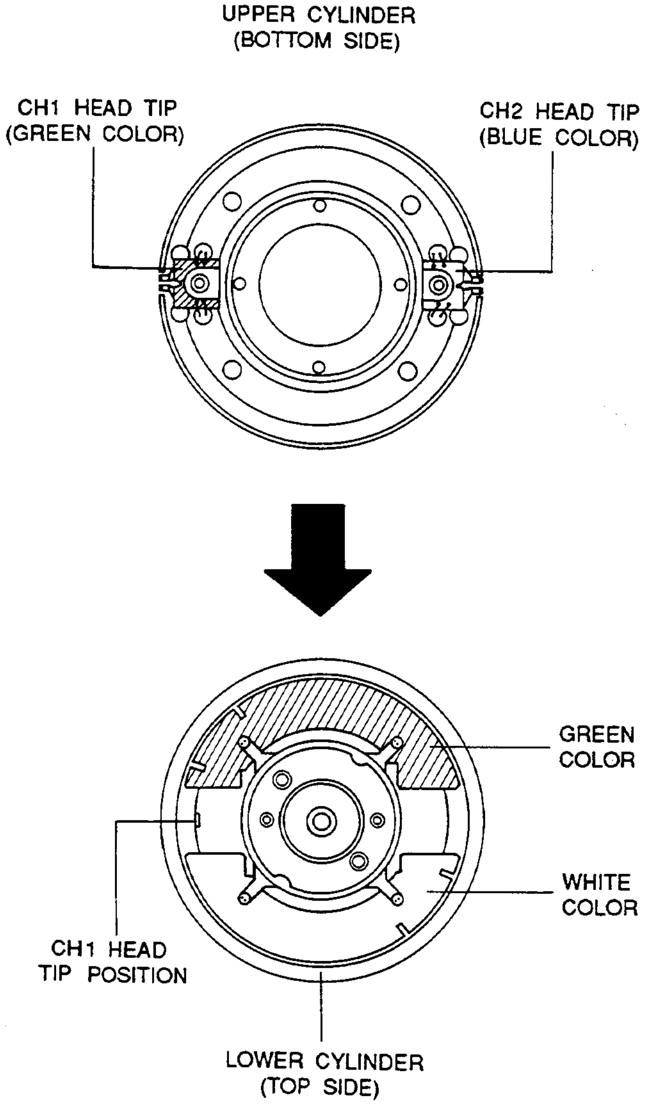

UPPER CYLINDER
(BOTTOM SIDE)
CH1 HEAD TIP
(GREEN COLOR)
CH2 HEAD TIP
(BLUE COLOR)
GREEN
COLOR
WHITE
COLOR
CH1 HEAD
TIP POSITION
LOWER CYLINDER
(TOP SIDE)

Fig. 18 Upper Cylinder Ass'y Timing

2-5-8. Assembly of Cylinder Ass'y

1. Reinstall cylinder ass'y on the main base.
2. Tighten three (3) screws securing the base cylinder and the main base.
3. Reconnect F.P.C cable to the Pre-Amp PCB and the lead connector ass'y to the bottom cylinder PCB.

2-6. REEL DISK ASS'Y REMOVAL

2-6-1. Brake Sub "L" Removal

1. Remove the spring brake sub "L" ①.
2. Lift up the brake sub "L" ② while pushing the clip brake sub"L" ③ in the direction of arrow.

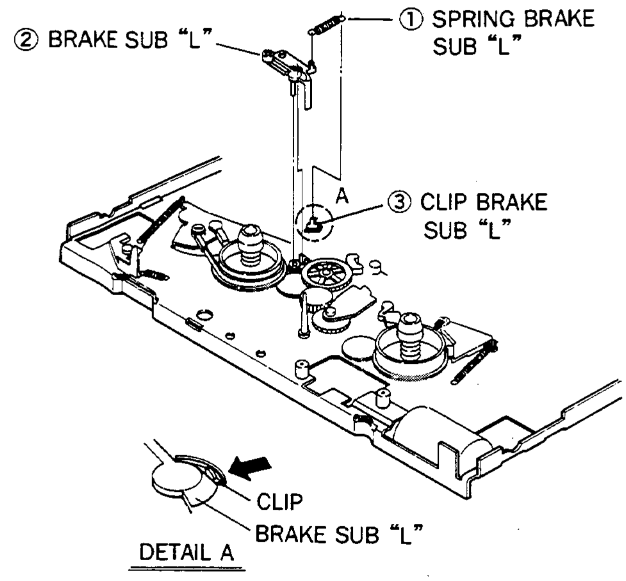

② BRAKE SUB "L"
① SPRING BRAKE SUB "L"
A
③ CLIP BRAKE SUB "L"
CLIP
BRAKE SUB "L"
DETAIL A

Fig. 19 Brake Sub "L" Removal

2-6-2. Gear Relay S2 & S1 Removal

1. Remove the washer slits ①.
2. Lift up the gear relay S2 ② and S1 ③.

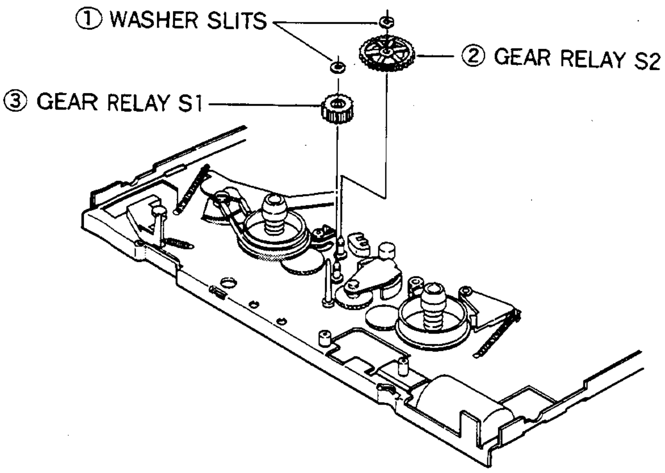

① WASHER SLITS
② GEAR RELAY S2
③ GEAR RELAY S1

Fig. 20 Gear Relay S2 & S1 Removal

2-6-3. Full Arm Tension Ass'y Removal

1. Take off the spring tension ①.
2. Push the pin arm tension ② releasing the clip in the direction of arrow (Bottom View).
3. Lift up the full arm tension ass'y ③.

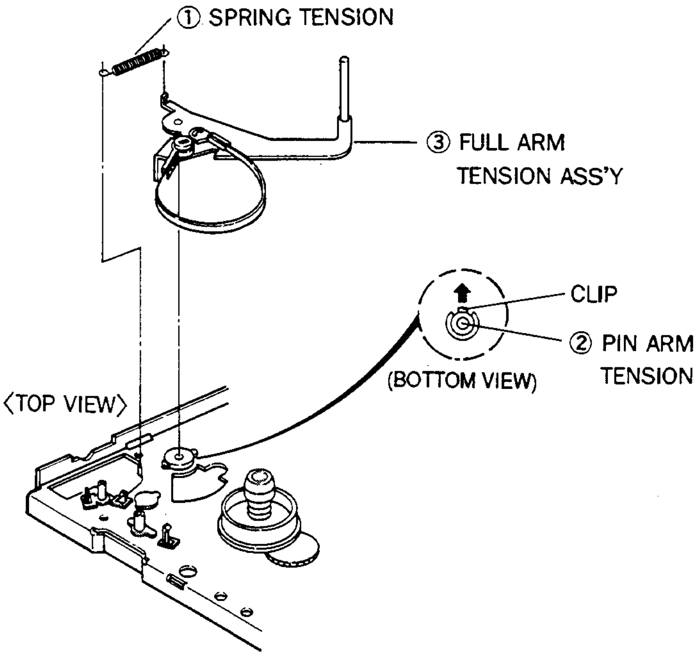

① SPRING TENSION
③ FULL ARM TENSION ASS'Y
CLIP
② PIN ARM TENSION
(BOTTOM VIEW)
〈TOP VIEW〉

Fig. 21 Full Arm Tension Ass'y Removal

2-6-4. Reel Disk "L" Ass'y & Gear Relay S3 Removal

1. Remove the washer slit (A) ①.
2. Lift up the reel disk "L" ass'y ② and the washer plain③.
3. Remove the washer slit (B) ④.
4. Lift up the gear relay S3 ⑤.

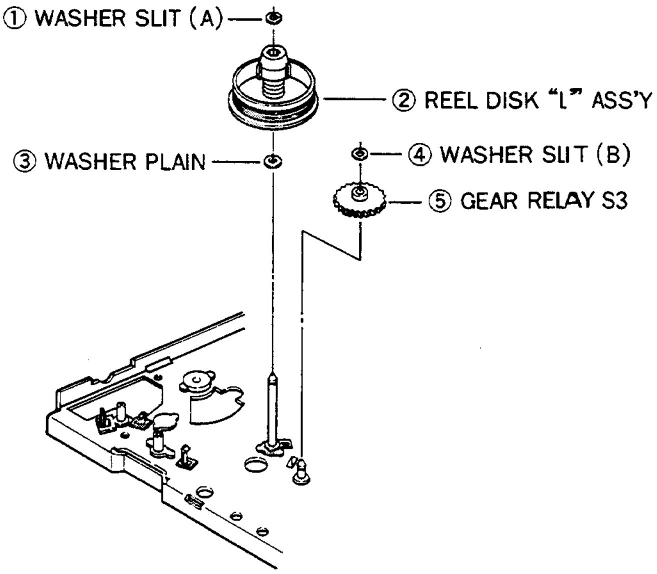

① WASHER SLIT (A)
② REEL DISK "L" ASS'Y
③ WASHER PLAIN
④ WASHER SLIT (B)
⑤ GEAR RELAY S3

Fig. 22 Reel Disk "L" Ass'y & Gear Relay S3 Removal

2-6-5. Brake Sub "R" Ass'y Removal

1. Remove the spring brake sub "R" ①.
2. Lift up the brake sub "R" ass'y ② while pushing the clip brake sub "R" ③ in the direction of arrow.

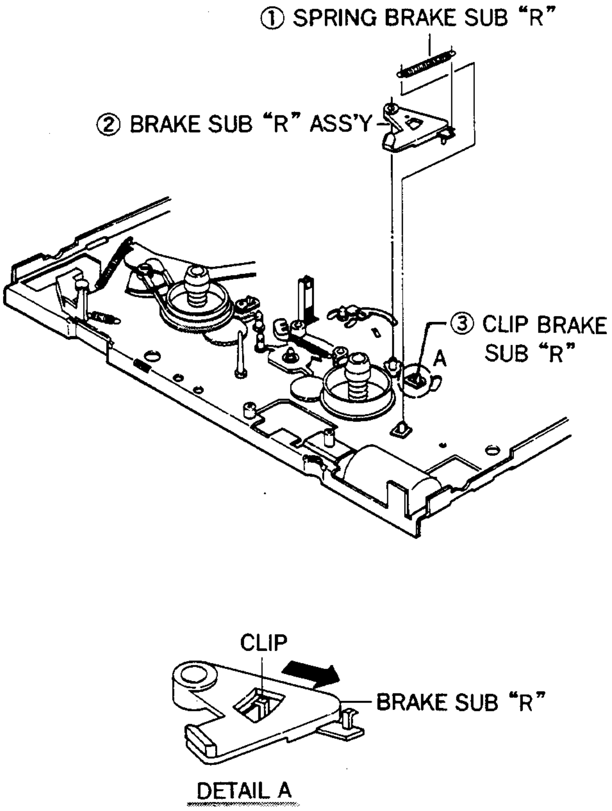

① SPRING BRAKE SUB "R"
② BRAKE SUB "R" ASS'Y
③ CLIP BRAKE SUB "R"
A
CLIP
BRAKE SUB "R"
DETAIL A

Fig. 23 Brake Sub "R" Ass'y Removal

2-6-6. Brake Main "L" & "R" Ass'y Removal (Fig. 24)

1. Remove the spring brake main ①.
2. Lift up the brake main "L" ass'y ② while pushing the clip in the direction of arrow (A). (Detail A)
3. Lift up the brake main "R" ass'y ③ while pushing the clip in the direction of arrow (B). (Detail B)

2-6-7. Reel Disk "R" Ass'y & Gear Relay "T" Removal (Fig. 25)

1. Remove the washer slit (A) ①.
2. Lift up the reel disk "R" ass'y ②.
3. Lift up the washer plain ③.
4. Remove the washer slit (B) ④.
5. Lift up the Gear Relay "T" ⑤.

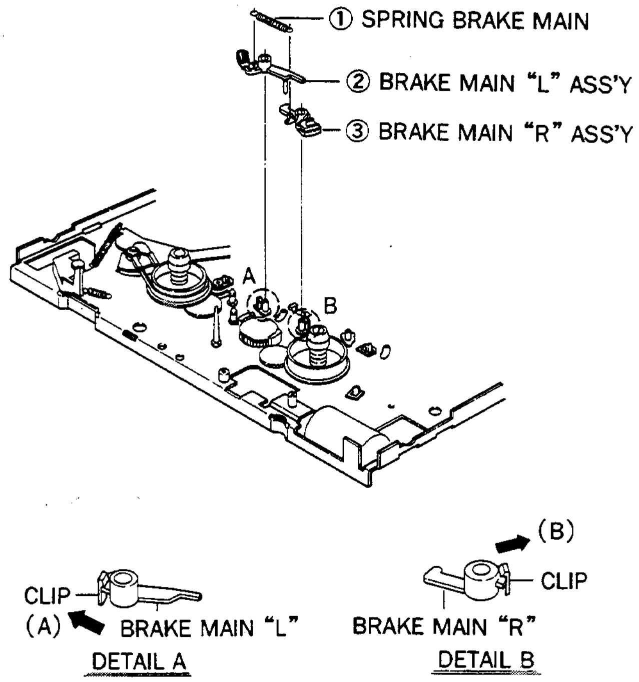

① SPRING BRAKE MAIN
② BRAKE MAIN "L" ASS'Y
③ BRAKE MAIN "R" ASS'Y
A
B
CLIP
(A)
BRAKE MAIN "L"
DETAIL A
(B)
CLIP
BRAKE MAIN "R"
DETAIL B

Fig. 24 Brake Main "L" & "R" Ass'y Removal

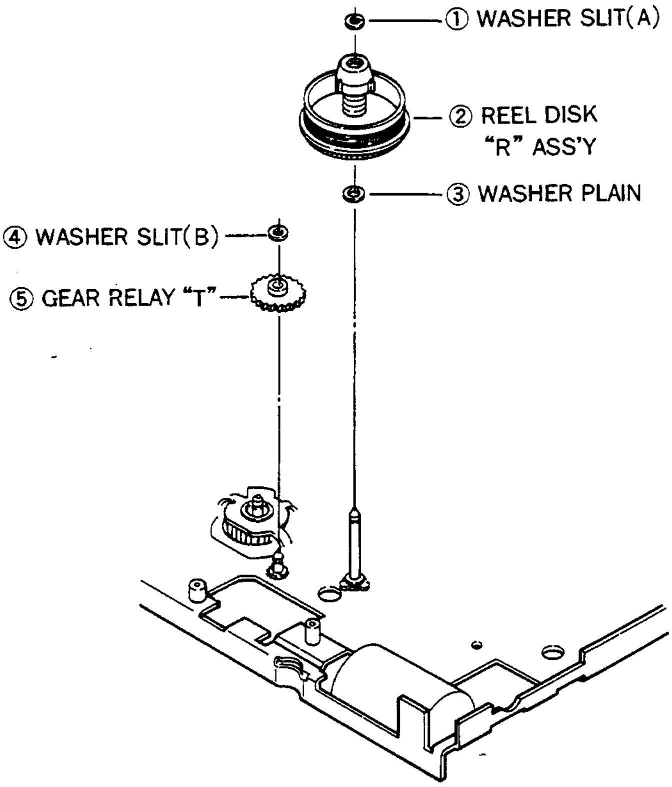

① WASHER SLIT(A)
② REEL DISK "R" ASS'Y
③ WASHER PLAIN
④ WASHER SLIT(B)
⑤ GEAR RELAY "T"

Fig. 25 Reel Disk "R" Ass'y & Gear Relay "T" Removal

2-6-8. Idler Sub Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the idler sub ass'y ②.

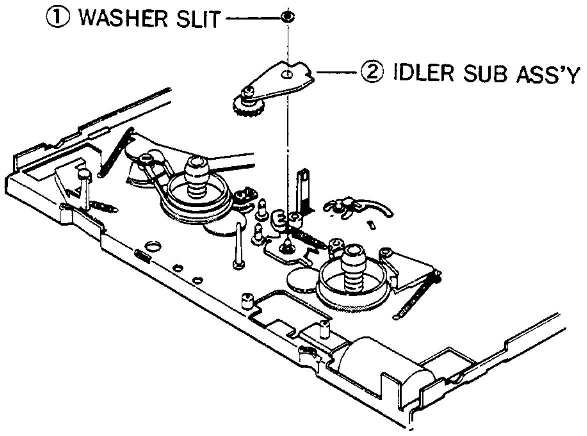

① WASHER SLIT
② IDLER SUB ASS'Y

Fig. 26 Idler Sub Ass'y Removal

2-6-9. Lever REC S/W Removal

1. Remove the spring record S/W ①.
2. Lift up the lever record S/W ② while pushing the clip in the direction of arrow.

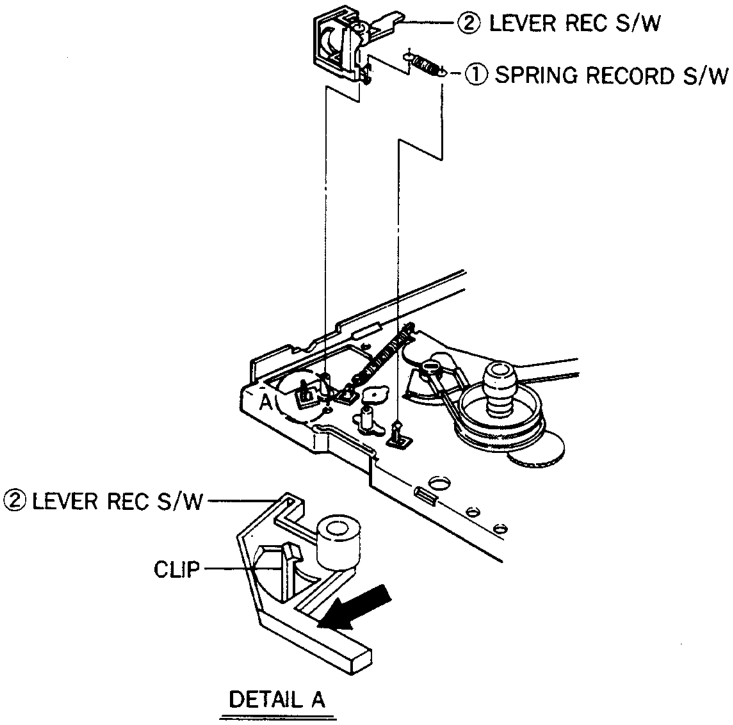

② LEVER REC S/W
① SPRING RECORD S/W
A
② LEVER REC S/W
CLIP
DETAIL A

Fig. 27 Lever REC S/W Removal

2-7. LOADING & CAPSTAN MOTOR ASS'Y REMOVAL & REASSEMBLY

2-7-1. Belt Capstan Removal

1. Remove the belt capstan ①.

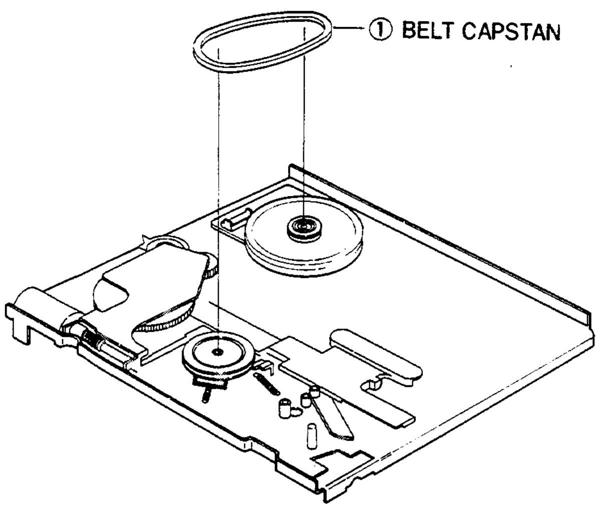
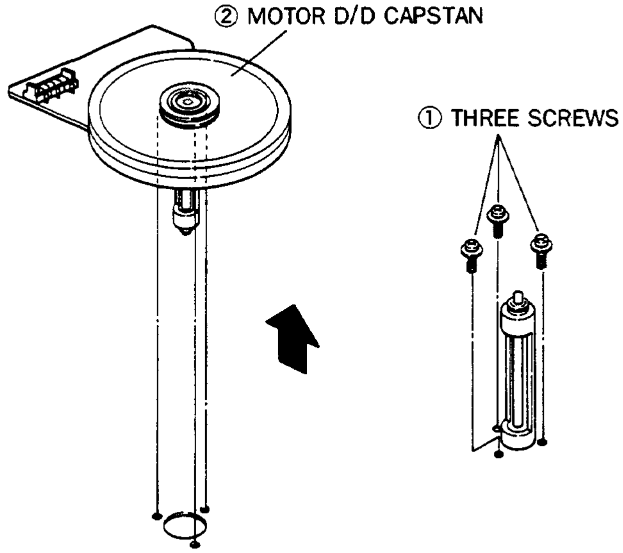

① BELT CAPSTAN

Fig. 28 Belt Capstan Removal

2-7-2. Motor D/D Capstan Removal

1. Remove three (3) screws ①. (Top View)
2. Lift up the motor D/D capstan ②. (Bottom View)


② MOTOR D/D CAPSTAN
① THREE SCREWS

(BOTTOM VIEW) (TOP VIEW)

Fig. 29 Motor D/D Capstan Removal

2-7-3. Clutch Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the clutch ass'y ②.
3. Remove the washer plain ③.

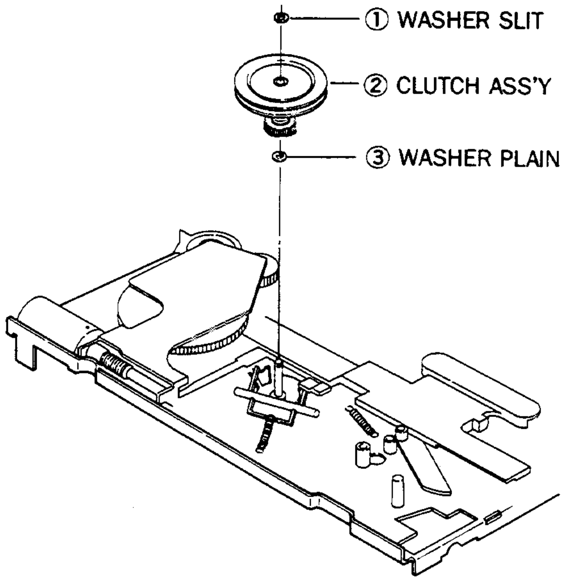

① WASHER SLIT
② CLUTCH ASS'Y
③ WASHER PLAIN

Fig. 30 Clutch Ass'y Removal

2-7-4. L/D Unit Ass'y & Gear Eject Drive Removal

1. Remove three (3) screws ① holding the loading unit ass'y ②.
2. Lift up the loading unit ass'y ②.
3. Lift up the gear eject drive ③.

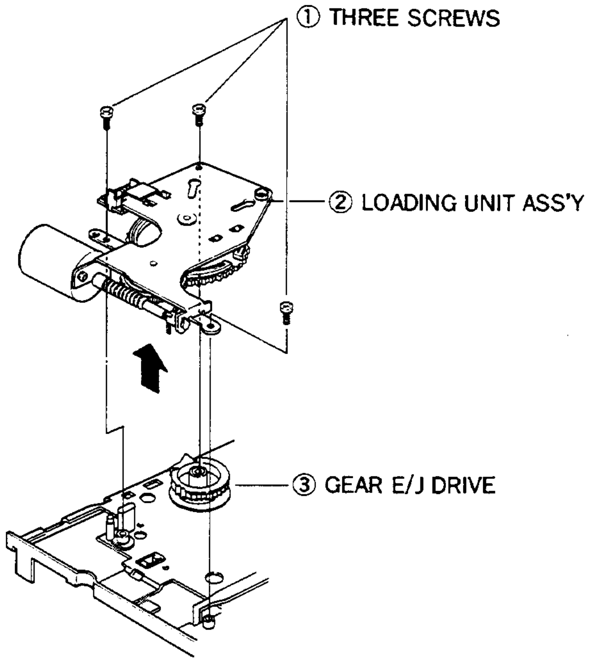

① THREE SCREWS
② LOADING UNIT ASS'Y
③ GEAR E/J DRIVE

Fig. 31 L/D Unit Ass'y & Gear Eject Drive Removal

2-7-5. Slide Main Removal

1. Remove the screw ① and washer slit ②.
2. Release the clip ③ holding the slide main ④ and then lift up the slide main ④.

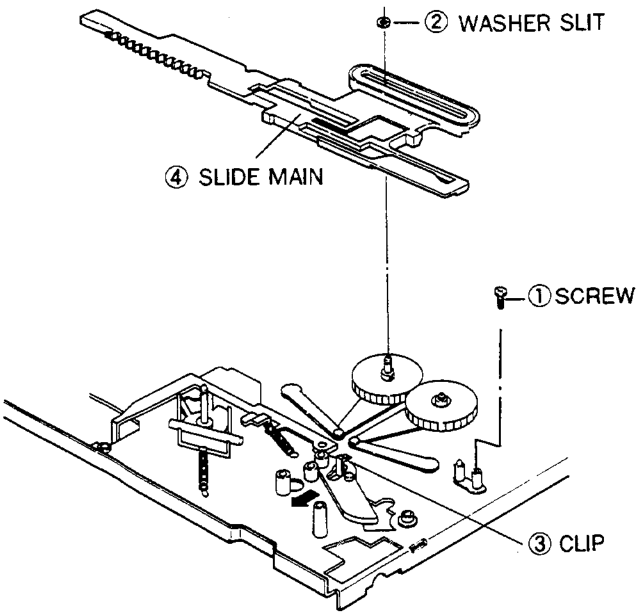

② WASHER SLIT
④ SLIDE MAIN
① SCREW
③ CLIP

Fig. 32 Slide Main Removal

2-7-6. Brake D/D Capstan Ass'y Removal

1. Remove the spring brake capstan ①.
2. Turn the brake D/D capstan ass'y ② clockwise completely and then lift it up.

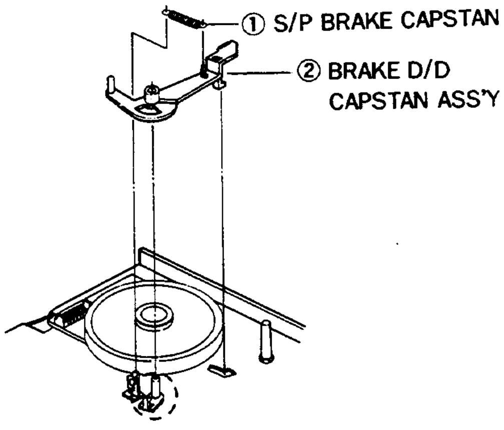
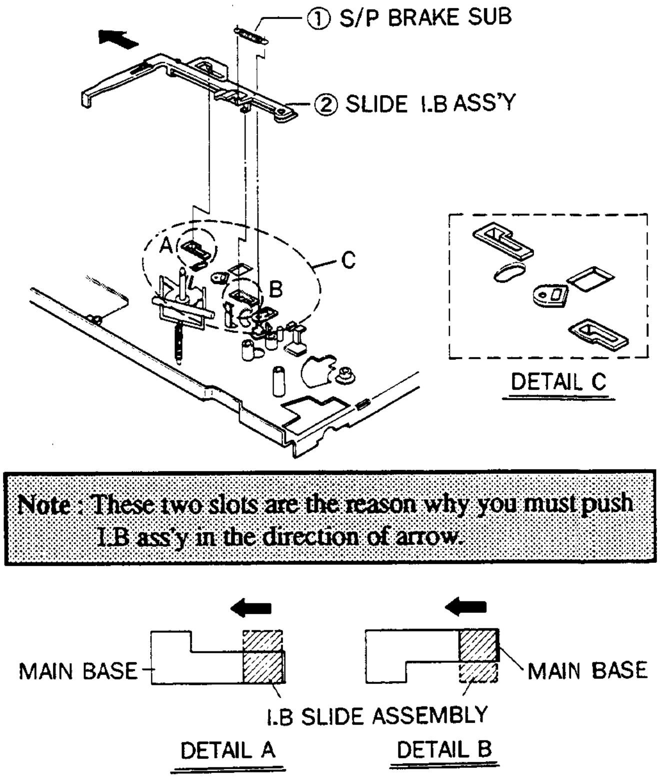

① S/P BRAKE CAPSTAN
② BRAKE D/D CAPSTAN ASS'Y

Fig. 33 Brake D/D Capstan Ass'y Removal

2-7-7. Slide I.B Ass'y Removal

1. Remove the spring brake sub ①.
2. While pushing the slide I.B ass'y ② to the end of the slot in the direction of arrow.
3. Lift up the slide I.B ass'y ②.


① S/P BRAKE SUB
② SLIDE I.B ASS'Y
A
B
C
DETAIL C
MAIN BASE
MAIN BASE
I.B SLIDE ASSEMBLY
DETAIL A
DETAIL B

Note : These two slots are the reason why you must push I.B ass'y in the direction of arrow.

Fig. 34 Slide I.B Ass'y Removal

2-7-8. Lever Shift Removal

1. Remove the spring lever shift ①.
2. Lift up the lever shift ②.

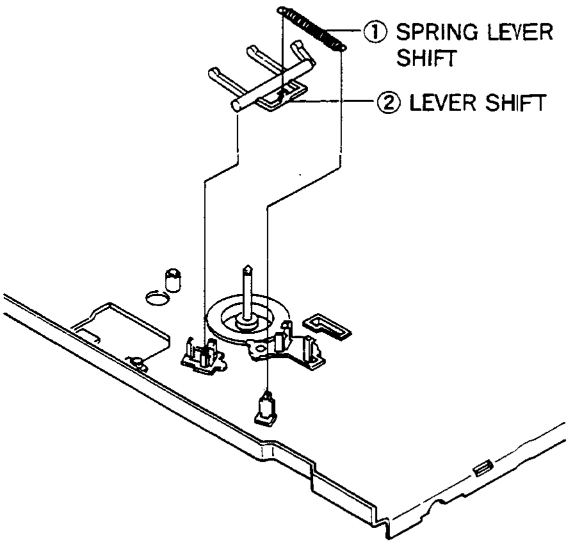

① SPRING LEVER SHIFT
② LEVER SHIFT

Fig. 35 Lever Shift Removal

2-7-9. Lever Tension Control Removal

1. Lift up the lever tension control ①.

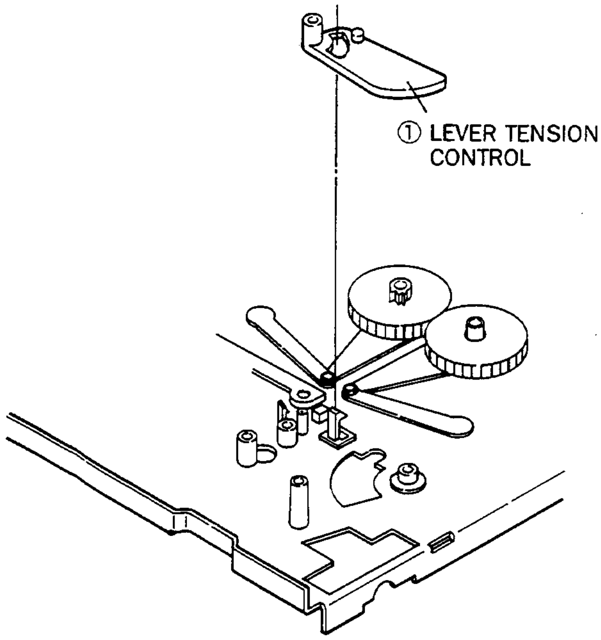

① LEVER TENSION CONTROL

Fig. 36 Lever Tension Control Removal

2-7-10. Gear Loading "L", "R" Ass'y Removal

1. Lift up the gear loading "R" ass'y ①.
2. Lift up the gear loading "L" ass'y ③ while pushing the gear loading "L" clip ② in the direction of arrow.

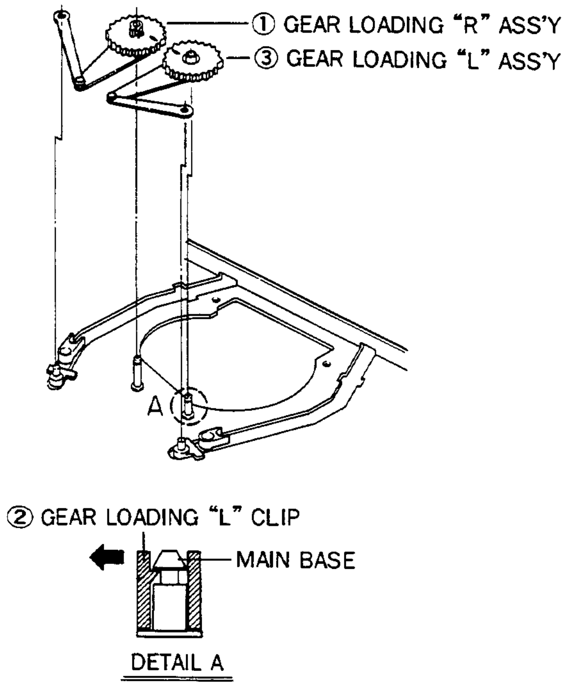

① GEAR LOADING "R" ASS'Y
③ GEAR LOADING "L" ASS'Y
A
② GEAR LOADING "L" CLIP
MAIN BASE
DETAIL A

Fig. 37 Gear Loading "L", "R" Ass'y Removal

2-7-11. Review Arm Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the full review arm ass'y ②.

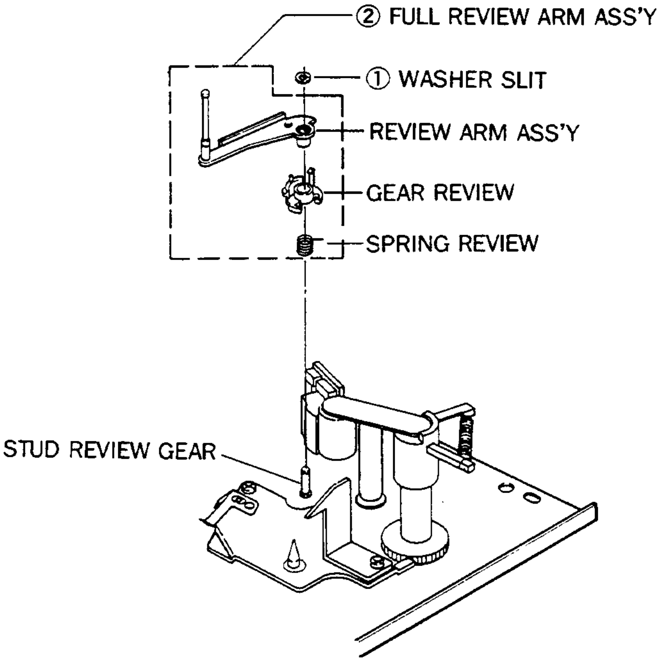

② FULL REVIEW ARM ASS'Y
① WASHER SLIT
REVIEW ARM ASS'Y
GEAR REVIEW
SPRING REVIEW
STUD REVIEW GEAR

Fig. 38 Review Arm Ass'y Removal

2-7-12. Drive Cam Pinch Ass'y Removal

1. Remove two (2) screws ①.
2. Lift up the drive cam pinch ass'y ②.

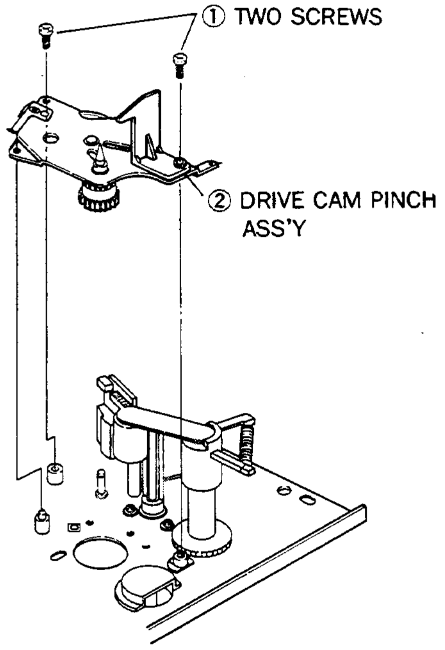

① TWO SCREWS
② DRIVE CAM PINCH ASS'Y

Fig. 39 Drive Cam Pinch Ass'y Removal

2-7-13. Pinch Roller Unit & Gear Escalator Removal

1. Remove the spring pinch roller ①.
2. Remove the washer slit ②.
3. Lift up the arm pinch ass'y ③.
4. Lift up the holder escalator ④ and the gear escalator ⑤.

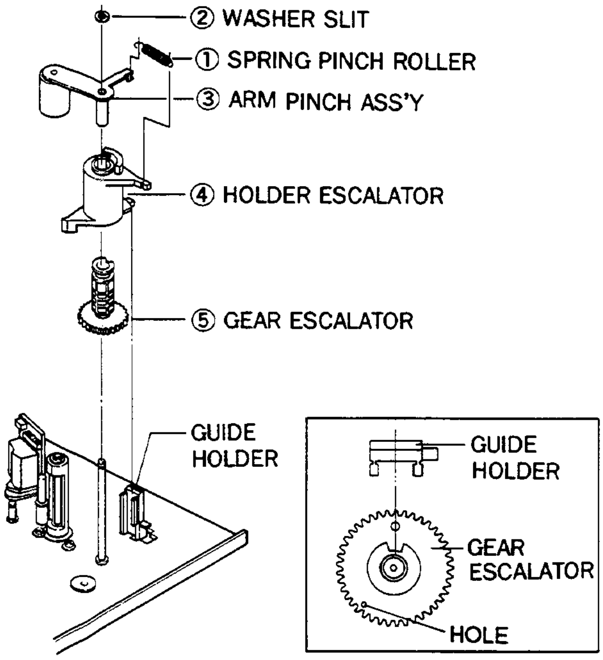

② WASHER SLIT
① SPRING PINCH ROLLER
③ ARM PINCH ASS'Y
④ HOLDER ESCALATOR
⑤ GEAR ESCALATOR
GUIDE HOLDER
GUIDE HOLDER
GEAR ESCALATOR
HOLE

Fig. 40 Pinch Roller Unit & Gear Escalator Removal

2-7-14. Reassembly of Unit Drive Pinch Ass'y and Gear Escalator

1. Align the hole of the bracket pinch drive ① with the hole of the gear cam drive ②.
   (Refer to timing (A) in Fig. 41)
2. Align the hole of the bracket pinch drive ① with the hole of the gear cam pinch ③.
   (Refer to timing (B) in Fig. 41)
3. Align the protrusion on the side of the gear relay pinch ④ with the hole of the gear cam drive ②.
   (Refer to timing (C) in Fig. 41)
4. Install the gear escalator on the shaft and align the holes.
   (Refer to timing in Fig. 40)
5. While installing align the arrow mark of the gear cam pinch ③ with the hole of the gear escalator ⑤.
   (Refer to timing (D) in Fig. 42)
6. When aligning the timing (D), be sure to line up the timing (A), (B), (C).
7. Install the two (2) screws.

Bottom View of Drive Pinch Ass'y

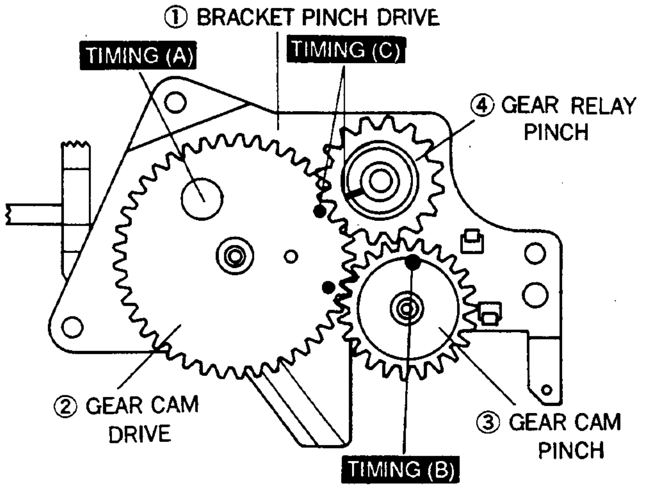

① BRACKET PINCH DRIVE
TIMING (A)
TIMING (C)
④ GEAR RELAY PINCH
② GEAR CAM DRIVE
③ GEAR CAM PINCH
TIMING (B)

Fig. 41 Timing of Gear Cam Drive, Gear Cam Pinch & Gear Relay Pinch

Top View of Drive Pinch Ass'y

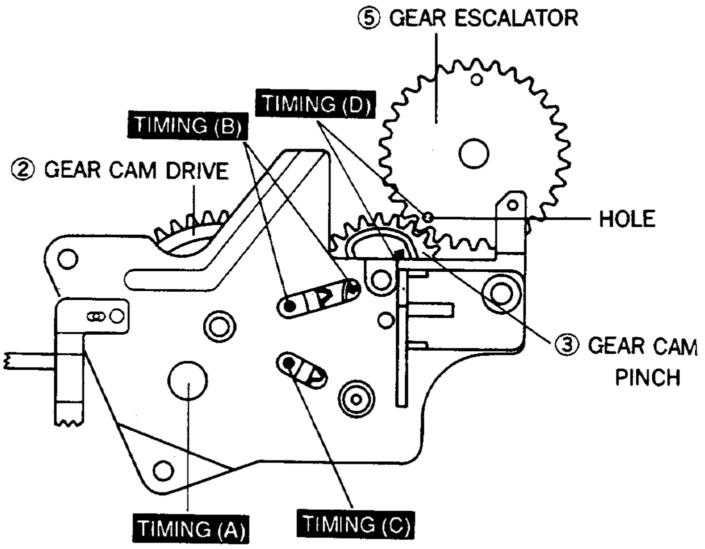
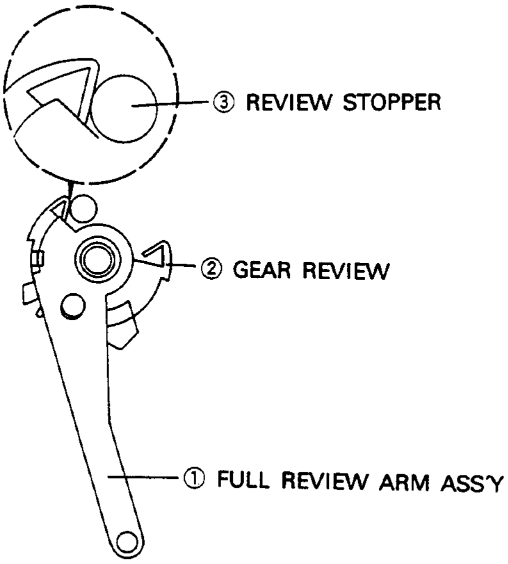

⑤ GEAR ESCALATOR
TIMING (D)
TIMING (B)
② GEAR CAM DRIVE
HOLE
③ GEAR CAM PINCH
TIMING (A)
TIMING (C)

Fig. 42 Reassembly of Drive Pinch Ass'y & Gear Escalator

2-7-15. Reassembly of Full Review Arm Ass'y

1. Assemble the full review arm ass'y ① so that the gear review ② is touching the review stopper ③ as shown in Fig. 43.
2. Install the washer slit.

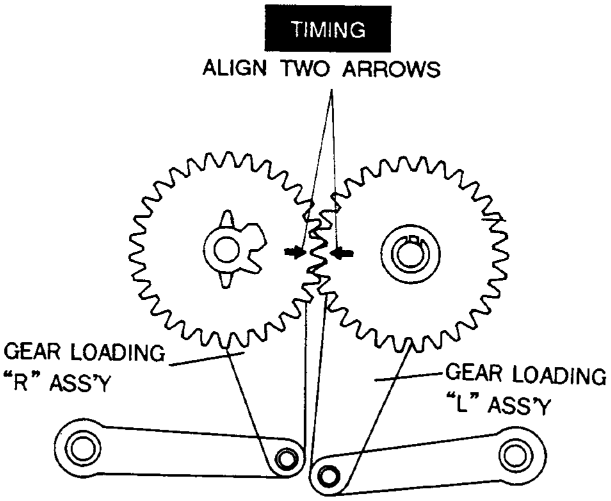


③ REVIEW STOPPER
② GEAR REVIEW
① FULL REVIEW ARM ASS'Y

Fig. 43 Reassembly and Timing of Full Review Arm Ass'y

2-7-16. Reassembly of Gear Loading "L", "R" Ass'y

1. Reassemble the gear loading L/R ass'y in the eject mode while aligning the timing mark. (Refer to Fig. 44)

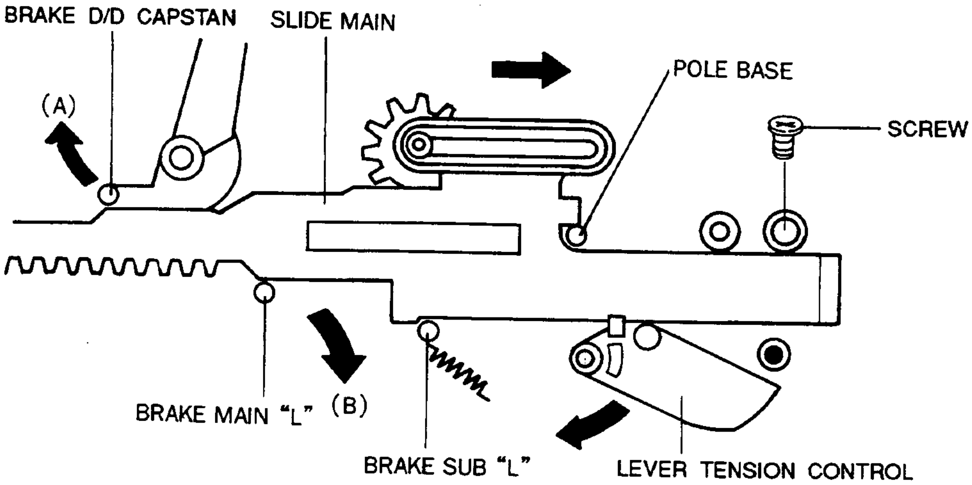


TIMING
ALIGN TWO ARROWS
GEAR LOADING "R" ASS'Y
GEAR LOADING "L" ASS'Y

Fig. 44 Reassembly of Gear Loading "L", "R" Ass'y

2-7-17. Timing of Slide Main

1. Install the brake D/D capstan, lever tension control and slide I.B ass'y.
2. Install the slide main between brake D/D capstan and brake main "L" , while pulling the brake D/D capstan and the brake main"L" toward arrow (A) and (B) respectively.
3. At the same time, make sure the brake sub "L" and the pole base is located as shown in the Fig. 45.
4. Install the one screw.



BRAKE D/D CAPSTAN
SLIDE MAIN
(A)
POLE BASE
SCREW
BRAKE MAIN "L"
(B)
BRAKE SUB "L"
LEVER TENSION CONTROL

Fig. 45 Timing of Slide Main

2-7-18. Reassembly and Timing of Program S/W & Gear Master

1. Align two arrows on the program S/W ①. (Refer to timing (A))
2. After aligning timing (A) completely, install the gear master ② so that the boss on the program S/W ① is inserted into the small hole of gear master ②. (Refer to timing (B))
3. Install the gear worm wheel and then washer slit.

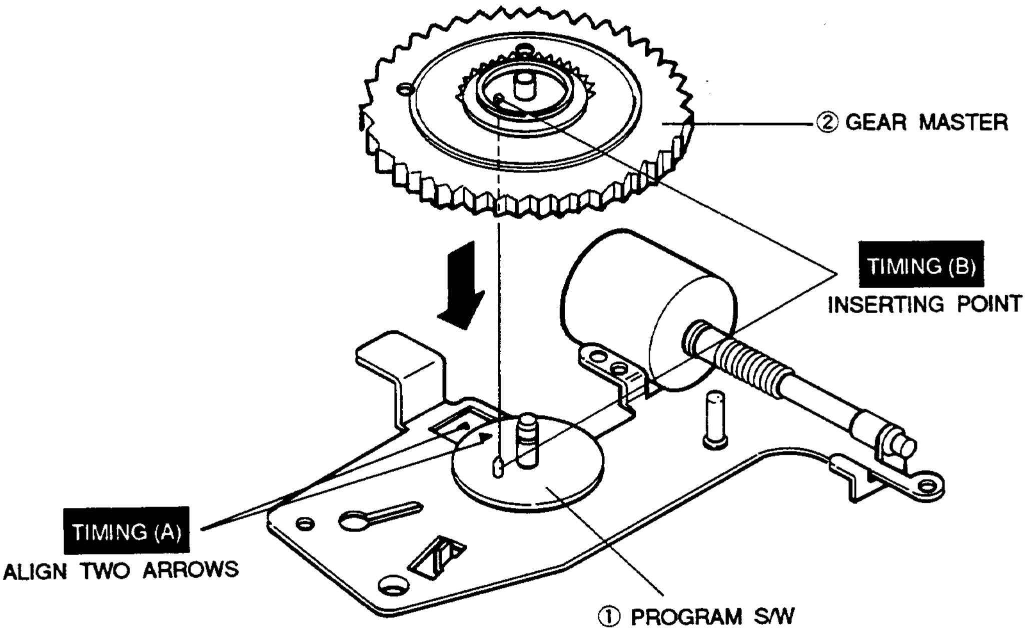

② GEAR MASTER
TIMING (B)
INSERTING POINT
TIMING (A)
ALIGN TWO ARROWS
① PROGRAM S/W

Fig. 46 Reassembly and Timing of Program S/W & Gear Master

2-7-19. Timing of Gear Master & Gear Eject Drive

1. Install the gear eject drive.
2. Install the loading unit and align the slot #2 of the gear eject drive ① with the hole of the gear master ②.
   (Refer to timing (A) in Fig. 47)
3. At this time, make sure that the timing (B) of the gear relay pinch ③ and the gear master ② are aligned correctly.

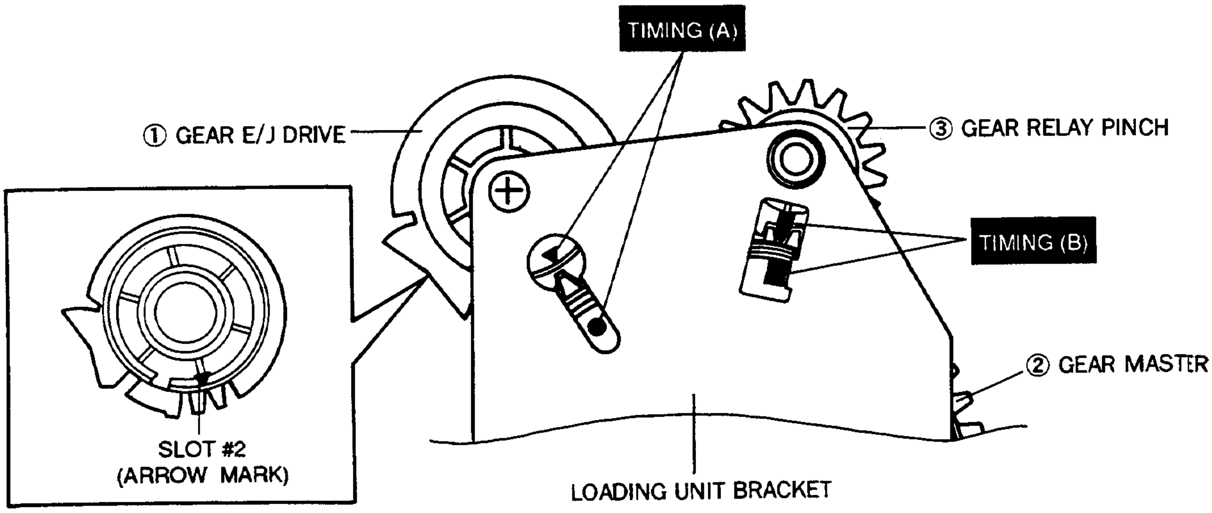

TIMING (A)
① GEAR E/J DRIVE
③ GEAR RELAY PINCH
TIMING (B)
② GEAR MASTER
SLOT #2
(ARROW MARK)
LOADING UNIT BRACKET

Fig. 47 Timing of Gear Master & Gear Eject Drive

2-8. TAPE TRANSPORT ASS'Y REMOVAL

2-8-1. Pole Base "L", "R" Ass'y Removal

1. Remove cylinder ass'y. (Refer to 2-5-1)
2. Move the pole base "L", "R" ass'y ①, ② to the end of slot.
3. Lift up the pole base "L", "R" ass'y ①, ②.

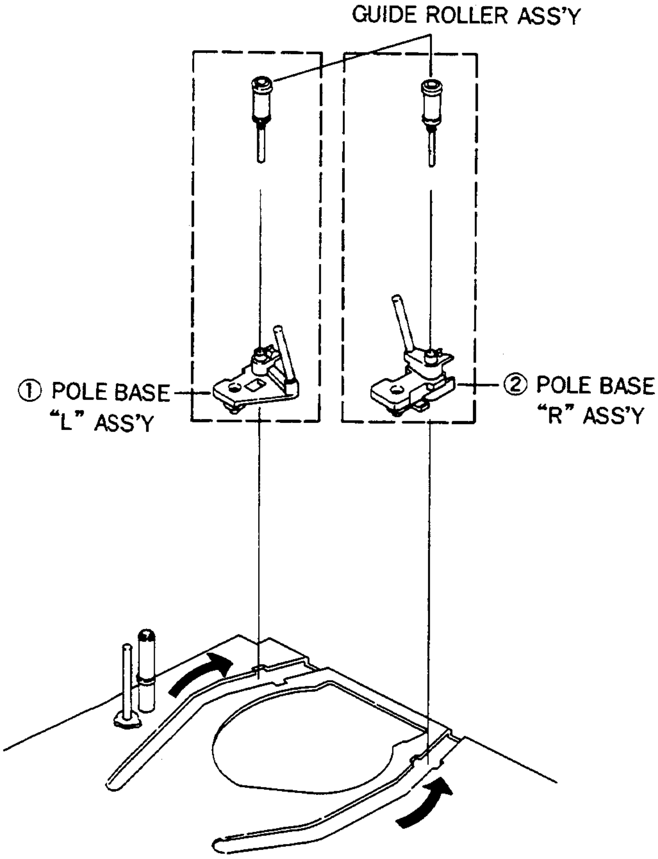

GUIDE ROLLER ASS'Y
① POLE BASE "L" ASS'Y
② POLE BASE "R" ASS'Y

Fig. 48 Pole Base "L", "R" Ass'y Removal

2-8-2. Head Magnetic F/E Removal (Fig. 49)

1. Remove one (1) screw ① holding the full erase head ②.
2. Unsolder the F/E head P.C.B ② from the head magnetic F/E ③.
3. Lift up the head magnetic F/E ③.

2-8-3. A/C Head Ass'y Removal (Fig. 50)

1. Remove two (2) screws ①.
2. Lift up A/C head ass'y ②.
3. Reinstall in reverse order.

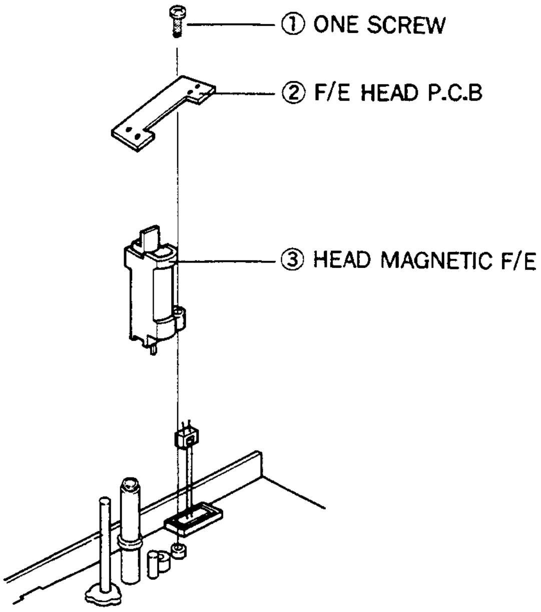

① ONE SCREW
② F/E HEAD P.C.B
③ HEAD MAGNETIC F/E

Fig. 49 Head Magnetic F/E Removal

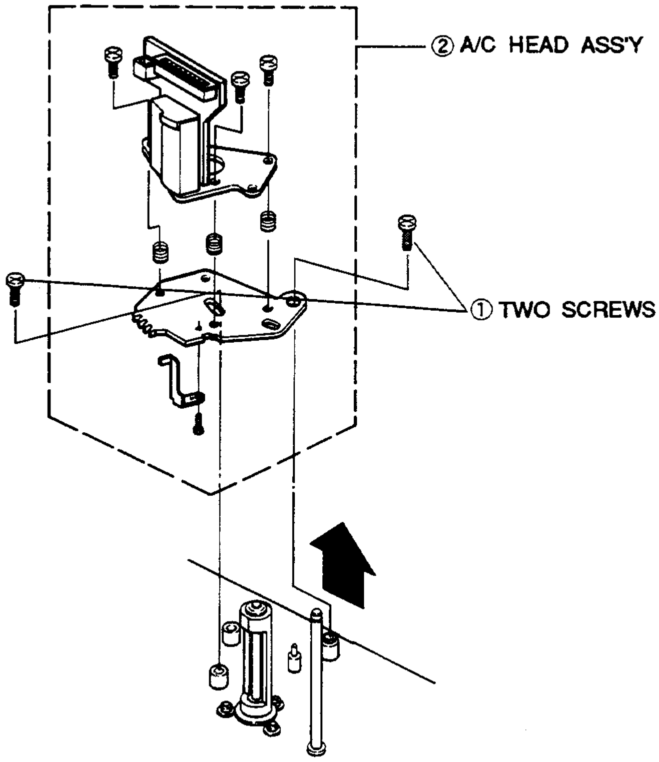

② A/C HEAD ASS'Y
① TWO SCREWS

Fig. 50 A/C Head Ass'y Removal

3. MECHANICAL ADJUSTMENT

3-1. TAPE TRANSPORT SYSTEM

Note :
The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the followings :
* Noises observed on the screen.
* Tape damage.
* Parts replacement in the tape transport system.

3-1-1. Location of Tape Transport Adjustment (Adjustment Reference)

Lower flange height of tape guide is used as the basic reference for the transport adjustment.
To keep height of the tape guide, do not apply excessive force onto the main base to prevent damage.

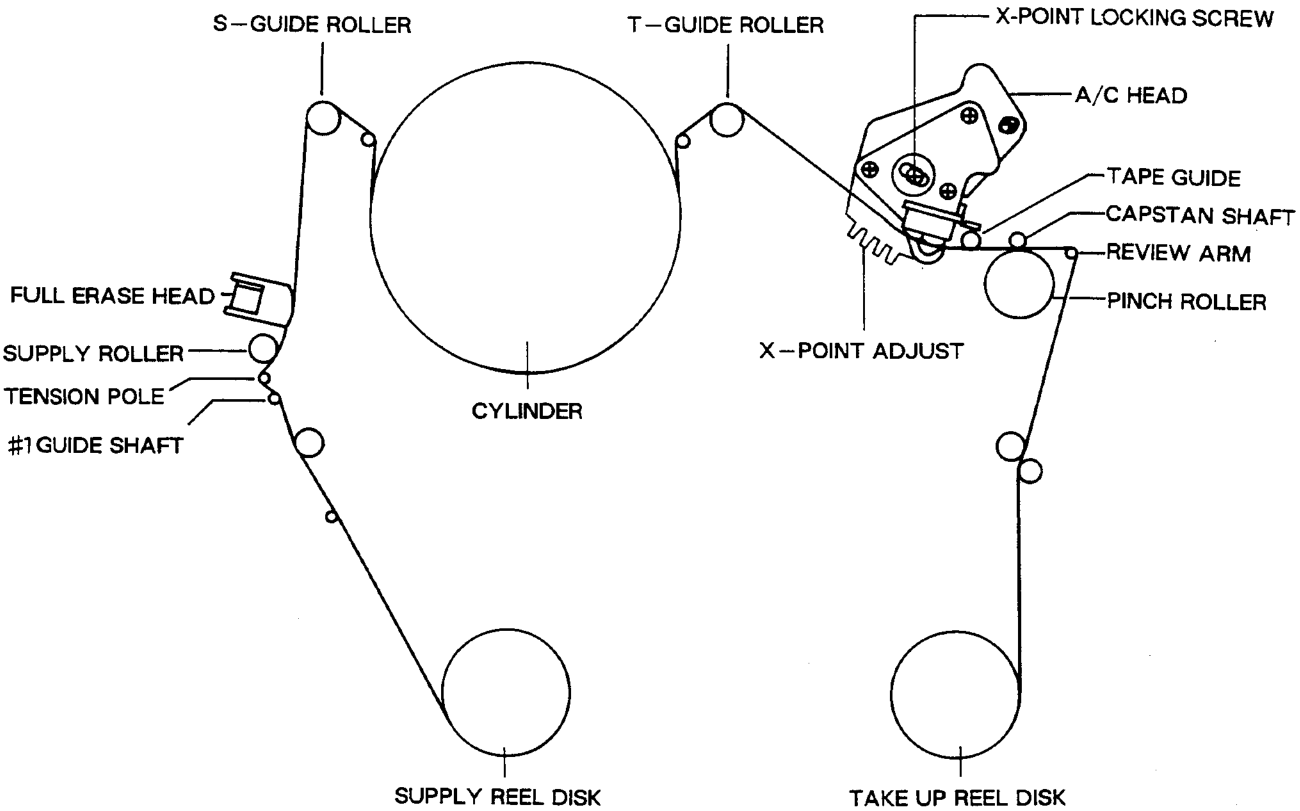

S-GUIDE ROLLER
T-GUIDE ROLLER
X-POINT LOCKING SCREW
A/C HEAD
TAPE GUIDE
CAPSTAN SHAFT
REVIEW ARM
PINCH ROLLER
FULL ERASE HEAD
SUPPLY ROLLER
TENSION POLE
#1 GUIDE SHAFT
CYLINDER
X-POINT ADJUST
SUPPLY REEL DISK
TAKE UP REEL DISK

Fig. 1 Location of Tape Transport Adjustment

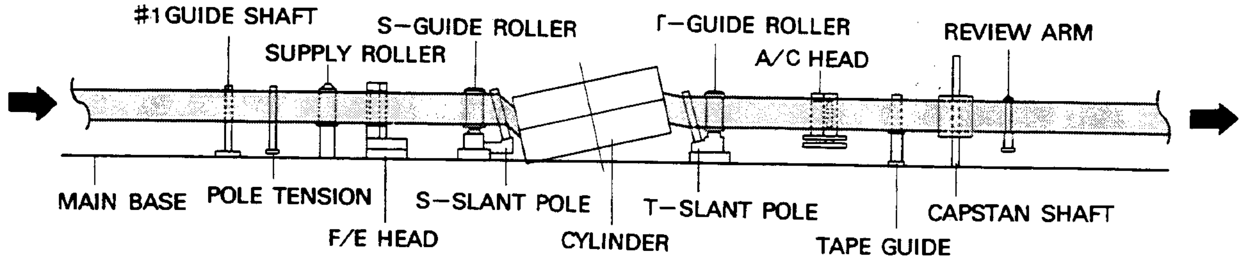

#1 GUIDE SHAFT
SUPPLY ROLLER
S-GUIDE ROLLER
T-GUIDE ROLLER
A/C HEAD
REVIEW ARM
MAIN BASE
POLE TENSION
F/E HEAD
S-SLANT POLE
CYLINDER
T-SLANT POLE
TAPE GUIDE
CAPSTAN SHAFT

Fig. 2 Tape Travel Diagram

3-1-2. Tape Transport System Adjustment

1) Pre-adjustment

When the part(s) are replaced, perform required adjustments by referring to procedures for the tape transport system. When the part (s) are replaced, the tape path may be changed.
First run a E-180 tape and make sure excessive tape wrinkle does not occur at each tape guide.

1. If tape wrinkle is observed at the S, T-guide rollers, turn the S,T-guide rollers until wrinkle disappears.
2. If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the A/C head.

2) Adjustment procedure

1. A/C head assembly adjustment

Test Point : W3V57 (Envelope)
W3V56 (H'D SW - Trigger)
W3V55 (CTL Pulse)
W3V16 (Audio Out)
Test Tape : SPC-SD(SR2-2) (Color Bar ; 1KHz)
SPC-SB(SR1-2) (Mono Scope ; 6KHz)
Blank Tape (E-240)

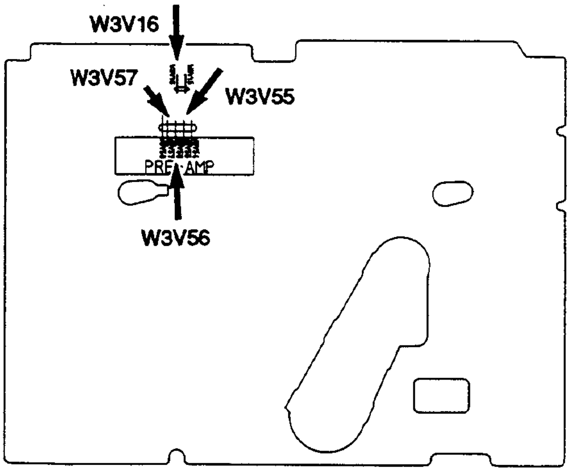

W3V16
W3V57
W3V55
PRE-AMP
W3V56

Fig. 3 Location of Test Point (Main PCB)

a. A/C head height adjustment

1. Run the alignment tape SPC-SD(SR2-2) in the playback mode.
2. Observe surface of the audio head using a dental mirror.
3. Turn screw (A), (B), (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25 mm.
   (Refer to Fig. 4 and 5)

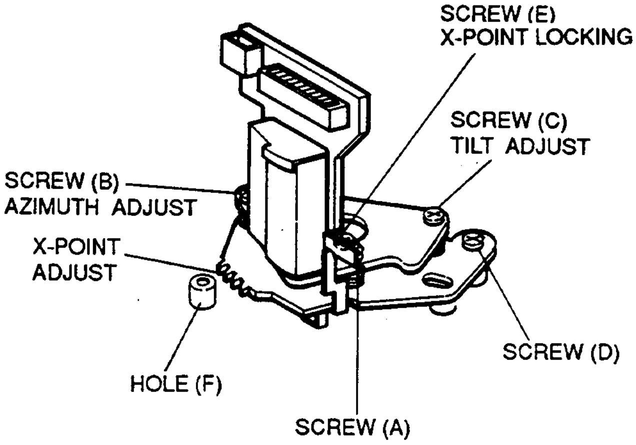

SCREW (E)
X-POINT LOCKING
SCREW (C)
TILT ADJUST
SCREW (B)
AZIMUTH ADJUST
X-POINT
ADJUST
SCREW (D)
HOLE (F)
SCREW (A)

Fig. 4 Location of A/C Head Adjustment Screw

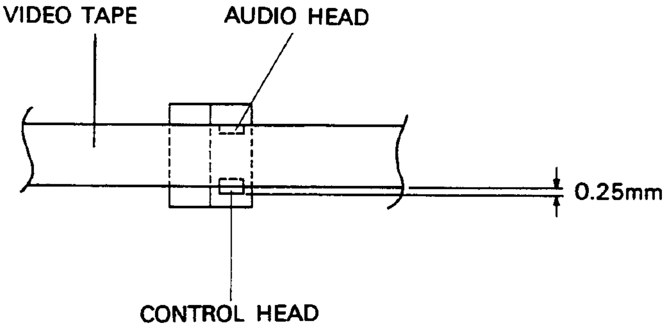

VIDEO TAPE
AUDIO HEAD
0.25mm
CONTROL HEAD

Fig. 5 A/C Head Height Adjustment

b. A/C head tilt adjustment

1. Playback a E-240 tape and observe position of the tape at the lower flange of tape guide.
2. Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 6 (B).
3. If a curl or wrinkle of the tape has occurred, slightly turn the screw (C) tilt adjust on the A/C H'd ass'y clockwise until it disappears as shown in Fig. 6 (B).
4. Reconfirm the A/C head height.

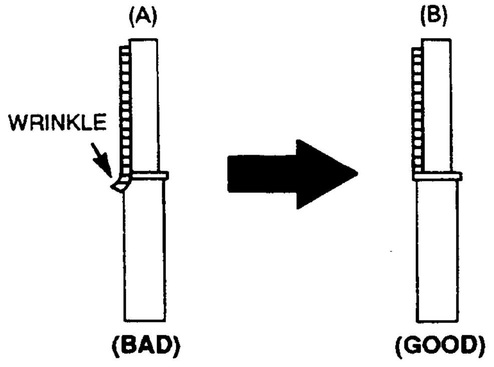

(A)
(B)
WRINKLE
(BAD)
(GOOD)

Fig. 6 Tape Guide Check

c. Audio azimuth adjustment

1. Load alignment tape (SPC-SB(SR1-2) ; 6KHz) and playback the 6KHz signal.
2. Connect channel-1 scope probe to W3V16 on the Main PCB.
3. Adjust screw (B) to achieve maximum audio level. (See Fig. 4)

d. A/C head position (X-Point) adjustment

1. Playback the SPC-SB(SR1-2) alignment tape.
2. Connect CH-1 scope probe to W3V55.
3. Connect CH-2 scope probe to W3V56 and trigger head switching pulse.
4. Set tracking preset to 0.5msec using the "TRK" (Tracking) button ▲/▼ of remote control. (Refer to Fig. 7 and 8)
5. Connect CH-1 scope probe to W3V57.
6. Turn screw (E) counterclockwise. (See Fig. 4)
7. Insert the adjusting driver (X-Point) into the hole (F) of main base and adjust the A/C head ass'y so that envelope waveform is maximum amplitude and then tighten screw (E).

◆ Setting of Scope ◆

- Volt/div. ; CH-1 = 0.1V
  CH-2 = 0.2V
- Time/div. ; 5msec

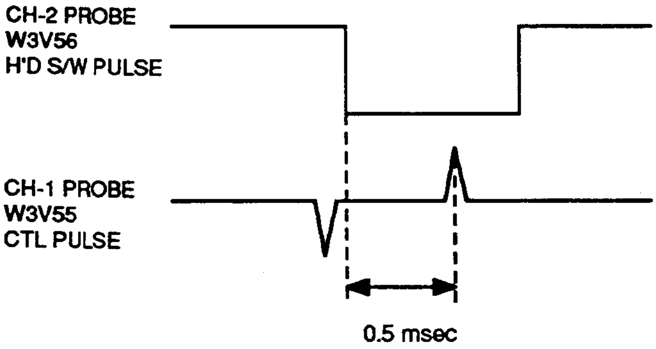


Fig. 7 Tracking Preset Adjustment

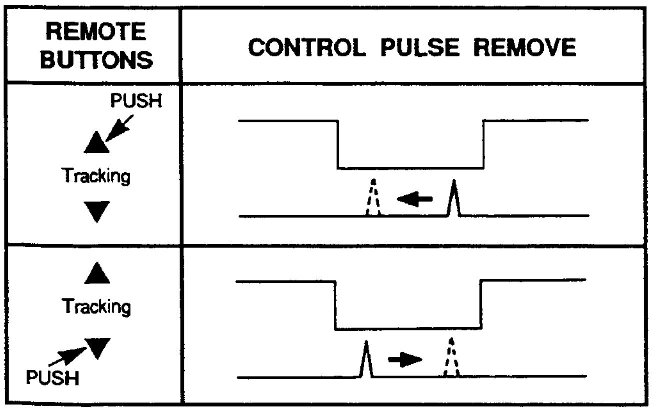


Fig. 8 Control Pulse Adjustment

2. Linearity adjustment (S, T-guide rollers adjustment)

Test Point : W3V57 (Envelope)
W3V56 (H'D SW - Trigger)
Test Tape : SPC-SB(SR1-2) (Mono Scope ; 6KHz)

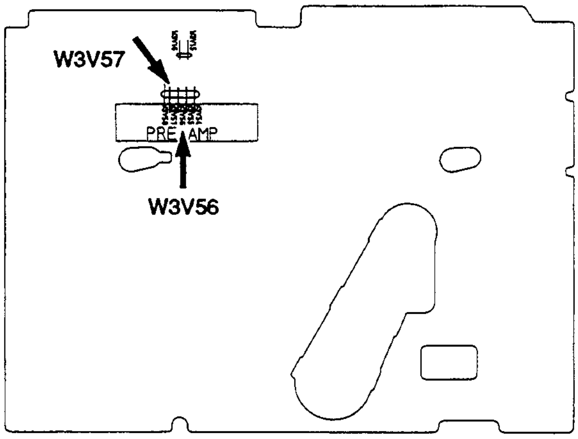
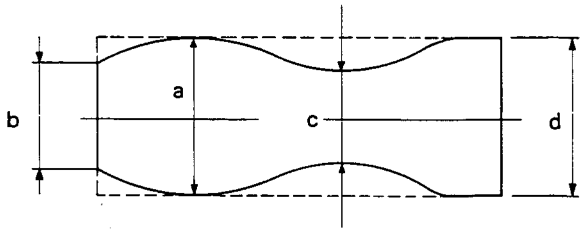


Fig. 9 Location of Test Point (Main PCB)

1. Playback the SPC-SB(SR1-2) alignment tape (SP mode).
2. Observe the video envelope signal on an oscilloscope triggered by the video switching pulse.
3. Make sure the video envelope waveform (in its minimum output) meets the specification shown in Fig. 10. If it does not, adjust as follows ;

Note :
a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Minimum output of the video RF envelope at the exit side.



a b c d

c, b, d/a ≧ 63%

Fig. 10 Envelope Waveform Adjustment

4. If the section A in Fig. 11 does not meet the specification, adjust the S-guide roller up or down.
5. If the section B in Fig. 11 does not meet the specification, adjust T-guide roller up or down.

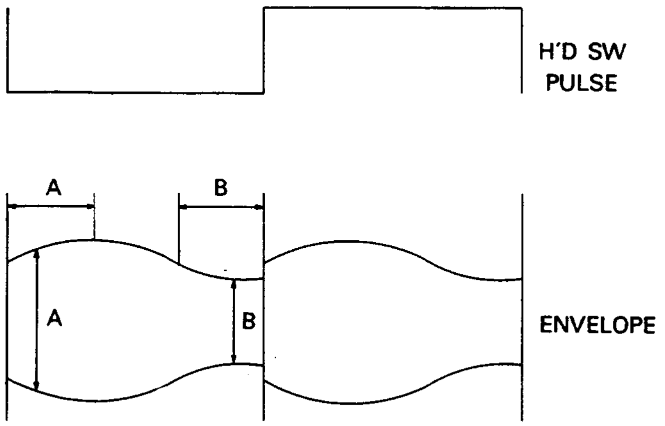

H'D SW
PULSE
A
B
A
B
ENVELOPE

Fig. 11 Adjustment Points

6. Slightly loosen the set screw at the lower part of the S, T-guide rollers with a (Hex Wrench - 0.9mm) so that the guide roller can be adjusted with reasonable tightness. (Refer to Fig. 12)

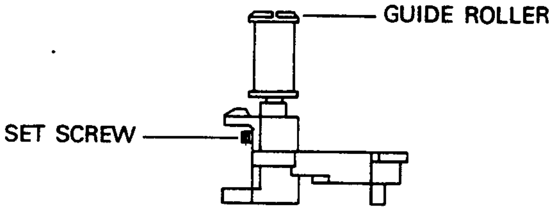

GUIDE ROLLER
SET SCREW

Fig. 12

7. Playback the SPC-SB(SR1-2) alignment tape (SP mode).
8. Connect an oscilloscope CH-1 to the W3V57 and CH-2 to the W3V56 on the same PCB for triggering.
9. Turn the guide roller heads with a flat head (■) screw driver to obtain flat video RF envelope as shown in Fig. 13.
10. After the adjustment is completed, tighten the set screws.

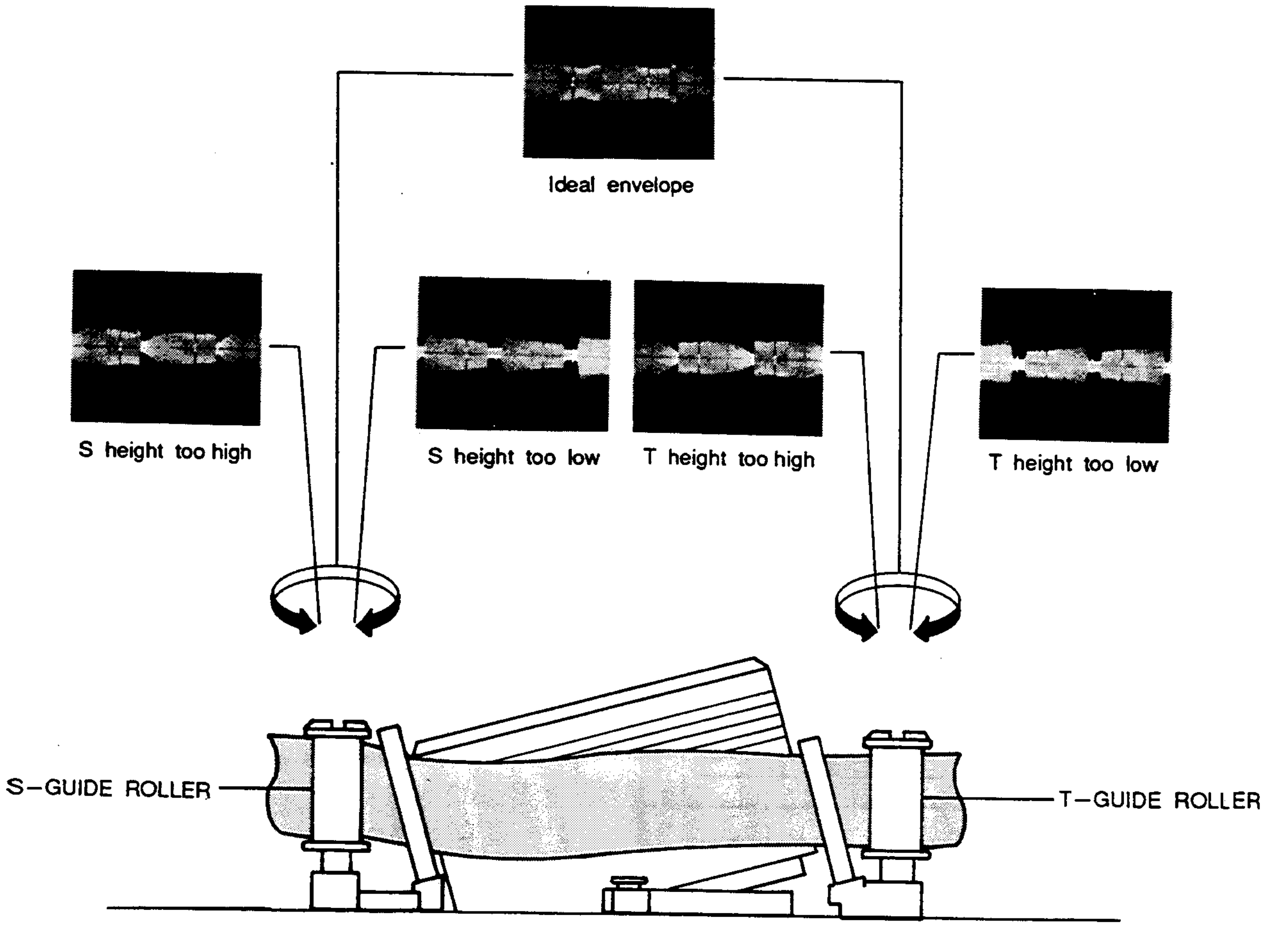

Ideal envelope
S height too high
S height too low
T height too high
T height too low
S-GUIDE ROLLER
T-GUIDE ROLLER

Fig. 13 S, T-Guide Roller Height Adjustments

3. Check for transitional operauon from RPS to play

Check transition from RPS mode to play mode, using a pre-recorded SP tape, make sure the entrance side of envelope comes to an appropriate steady state within 3 seconds as shown in Fig. 14.

If the envelope waveform does not reach specified peak-to-peak amplitude within 3 seconds, adjust as follows :

1. Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2. Change operation mode from the RPS to the play mode again and make sure entrance side of envelope rises within 3 seconds.

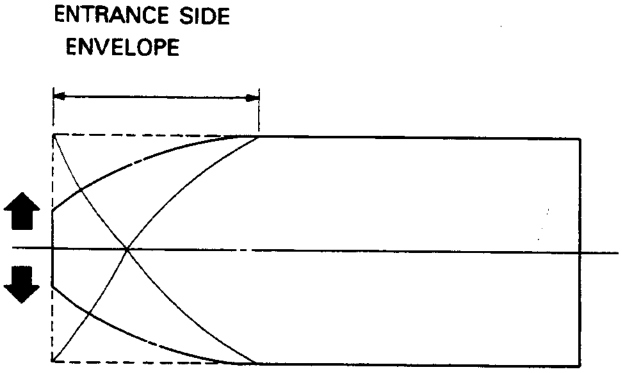


Fig. 14 Video envelope rising when operation mode changes from RPS to play mode.

4. Envelope check

1. Make recordings on E-120 and E-180 tapes, and make sure the playback output envelope meets the specification as shown in Fig. 15.
2. Playback a self recorded tape (recording made on this unit), (with a E-120) the video envelope should meet the specification as shown in Fig. 15.
   In SP mode, (A) should be same as (B).
   If the head gap is wide, upper cylinder should be checked.

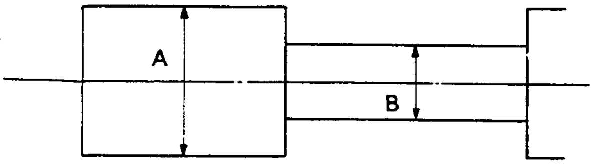


Fig. 15 Envelope Output and Output Level Difference

5. Tape wrinkle check

1. Run the E-240 tape in the playback, FPS, RPS and the pause mode and then observe tape wrinkle at each guide.
2. If excessive tape wrinkle is observed in the mode shown below, perform the associated adjustment shown below.

a. Playback mode

- Tape wrinkle at the S, T-guide roller section : Linearity adjustment.
- Tape wrinkle at tape guide flange : A/C head assembly coarse adjustment.

3-2. REEL TORQUE

3-2-1. Reel Torque

1. The rotation of the capstan motor operates the clutch ass'y through the belt capstan motor.
2. Brake operation and shift operation in FF/REW are done by a slide lever.
3. Transportation of accurate driving force is done by gears. (clutch ass'y)

MODE	TORQUE g/cm	GAUGE
PB/REC	100 ± 30	Cassette Torquement
RPS	170 ± 30	Cassette Torquement
FF/REW	Minimum 600	Torque Gauge

Note : If the spec is out of above chart, replace the clutch ass'y and then recheck.

3-2-2. Location of Tension Pole and Back Tension Adjustment

1. Remove the housing ass'y and set the deck to play mode.
2. Adjust the cam tension to 0 ~ −0.5mm from the center of supply roller.
3. The back tension meter should be used for checking back tension.

Check back tension, should be 40 ~ 47g.cm.
If not, adjust cam tension.

Counterclockwise : Torque UP
Clockwise : Torque DOWN

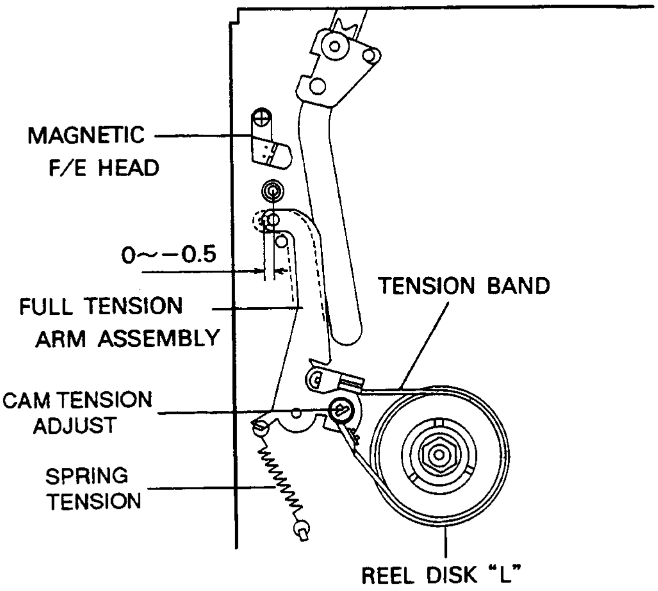

MAGNETIC F/E HEAD
0~−0.5
FULL TENSION ARM ASSEMBLY
TENSION BAND
CAM TENSION ADJUST
SPRING TENSION
REEL DISK "L"

Fig. 16 Tension Pole and Back Tension Adjustment

BACK TENSION METER

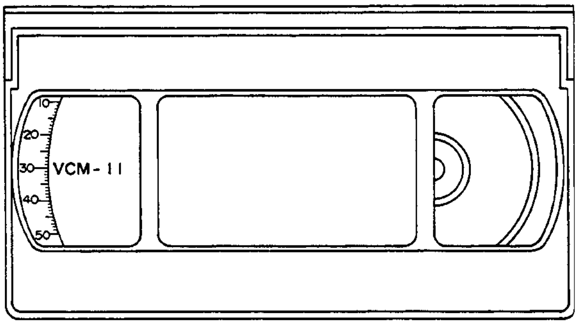

10
20
30
40
50
VCM-11

Fig. 17 Back Tension Tape Torque Cassette

4. ELECTRICAL ADJUSTMENTS

4-1. PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to perform these adjustment only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

4-1-1. Required Test Equipment

1. Color Television or Monitor.
2. Oscilloscope : wide-band, dual-trace, triggered delayed sweep.
3. Trackingscope.
4. AC Voltmeter.
5. Recording tape. (Blank tape)
6. Alignment tapes : SPC-SB(SR1-2), SPC-SD(SR2-2), SR2-3

Tapes	Video Signal	Audio Signal
SPC-SB SR1-2 (PAL)	Mono Scope	6 KHz
SPC-SD SR2-2 (PAL)	Color Bars	1 KHz
SR2-3 (SECAM)	Color Bars	1 KHz

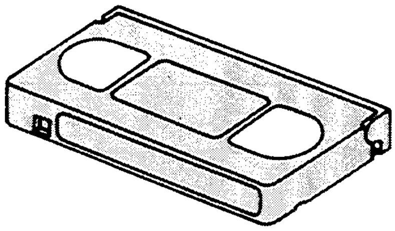


Fig. 1 Alignment Tape

7. Pattern Generator : PAL color bar. 100% White.

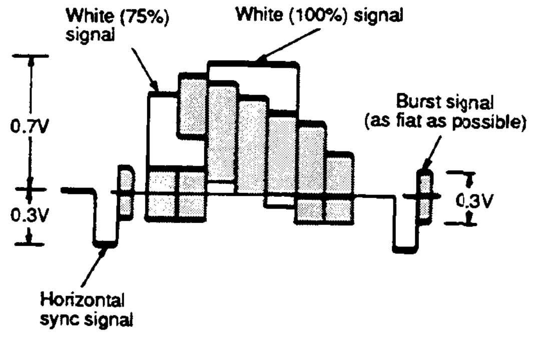
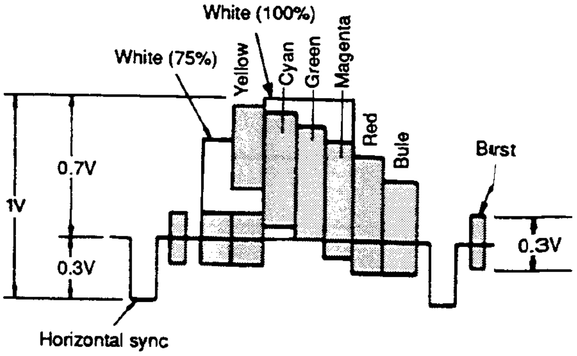
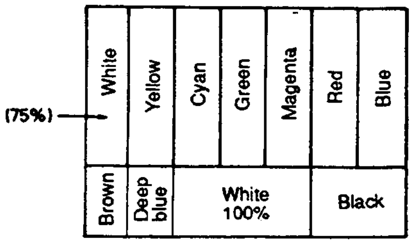

White (75%) signal
White (100%) signal
Burst signal (as flat as possible)
0.7V
0.3V
0.3V
Horizontal sync signal

Fig. 2 Color bar signal of pattern generator

(Color Bar Signal)
The 75% color bar signal recorded on the alignment tape is shown in Fig. 3.


White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Bule
Brst
0.7V
1V
0.3V
0.3V
Horizontal sync

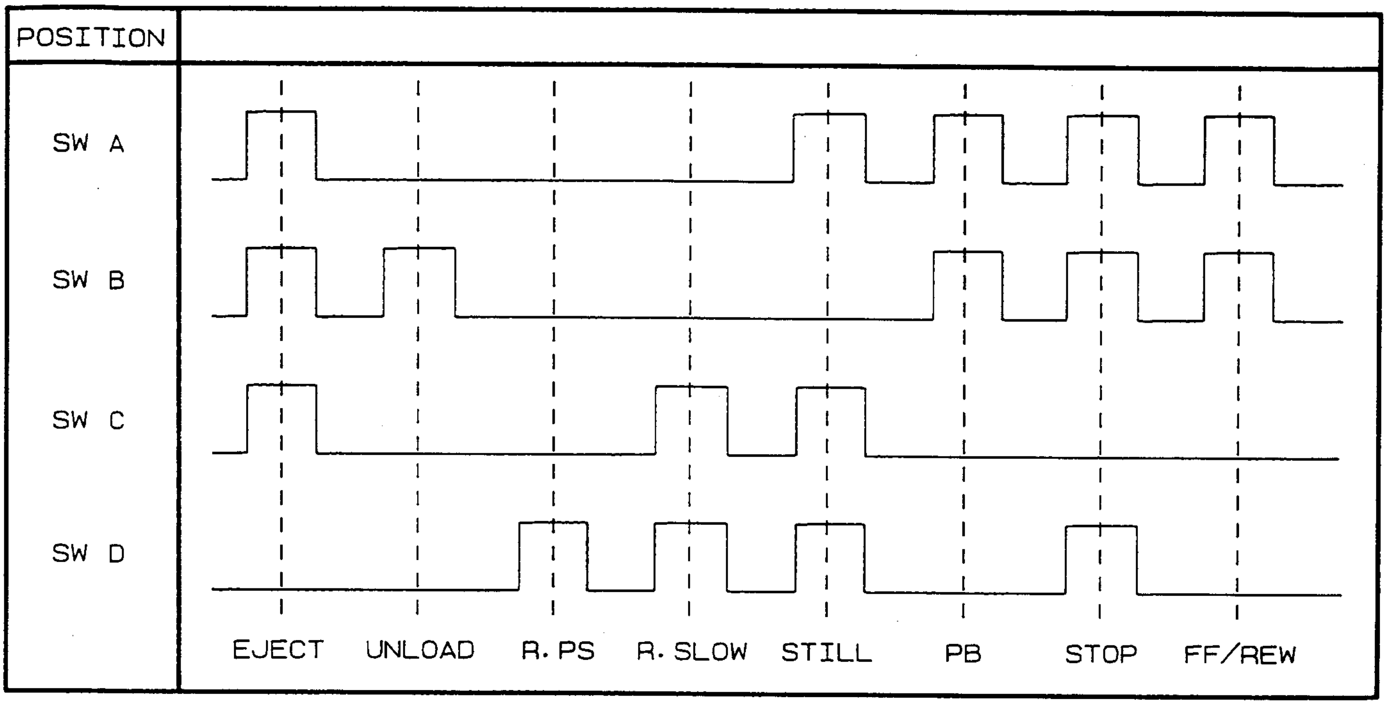
Color bar signal waveform


(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Brown
Deep blue
White 100%
Black

Color bar pattern

Fig. 3 Color bar signal of alignment tape

4-2. PROGRAM SWITCH TIMING CHART


POSITION
SW A
SW B
SW C
SW D
EJECT
UNLOAD
R. PS
R. SLOW
STILL
PB
STOP
FF/REW

MODE (OPERATION CONDITION)	SWITCH POSITION	IC606			
		A	B	C	D
EJECT	EJECT	H	H	H	L
UNLOAD	UNLOAD	L	H	L	L
R. PS	R. PS	L	L	L	H
R. SLOW	R. SLOW	L	L	H	H
STILL	STILL	H	L	H	H
PLAY· FPS· REC	PB	H	H	L	L
STOP	STOP	H	H	L	H
FF/REW	FF/REW	H	H	L	L

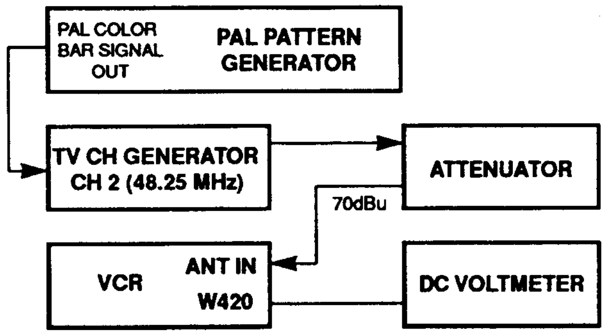
4-3. SERVO, AUDIO, TUNER & OSD SECTION

STEP	ADJUSTMENT ITEM
	1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS

ADJ. part →

Test Point - - →

*** Composition for RF AGC Adjustment**

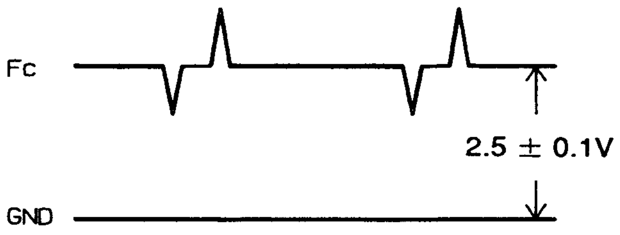

PAL COLOR BAR SIGNAL OUT
PAL PATTERN GENERATOR
TV CH GENERATOR CH 2 (48.25 MHz)
ATTENUATOR
70dBu
VCR
ANT IN
W420
DC VOLTMETER

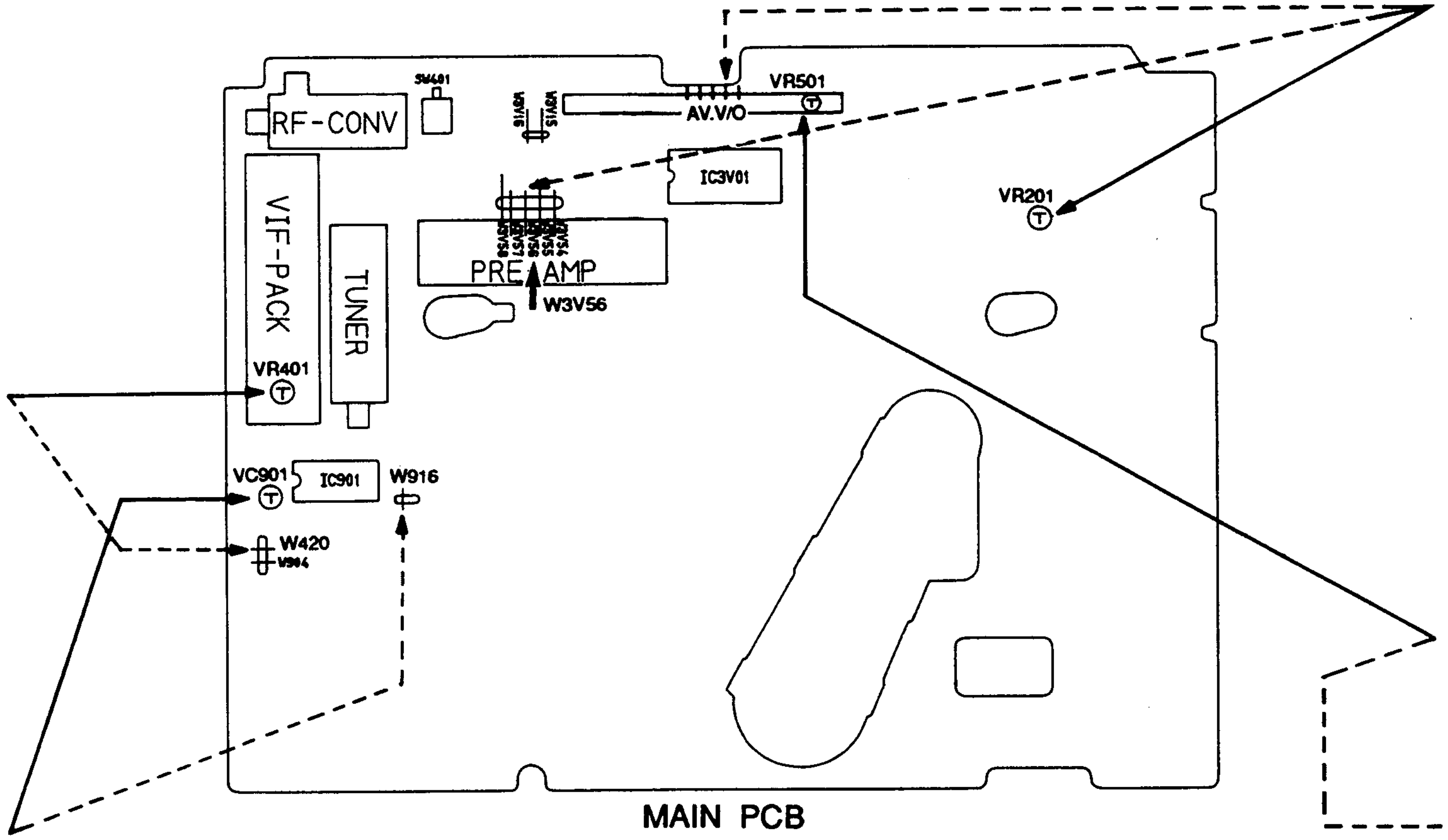
3 RF AGC

1. "E-E' (stop mode), RF signal.
2. W420 & VR401.
3. * Apply PAL color bar signal to the video input terminal of the TV channel generator and set channel selector to CH 2 (48.25 MHz).
   - * Adjust the point signal level so that the output of attenuator is 70 dBu.
   - * Apply the output of attenuator to the ANT IN terminal of VCR.
   - * Set the channel of VCR to CH 2.
   - * Connect DC voltmeter to W420.
   - * Adjust VR401 for DC 5.2 ± 0.1V.

4 OSD Fc LEVEL

1. "E-E" (stop mode), Color bar signal (AV V. IN jack on the rear panel).
2. W916 & VC901.
3. * Connect an oscilloscope CH-1 to W916.
   - * Adjust VC901 so that the DC level is 2.5 ± 0.1 V.

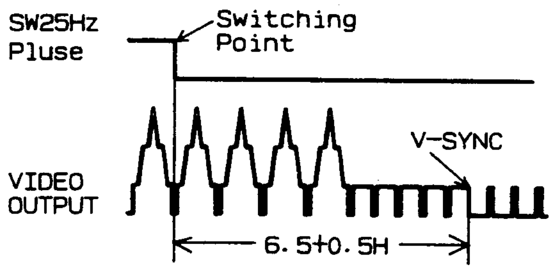

Fc
2.5 ± 0.1V
GND


RF-CONV
SW401
VIF-PACK
TUNER
VR401
VC901
IC901
W916
W420
W904
VR501
AV.V/O
IC3V01
PRE AMP
W3V56
VR201

MAIN PCB

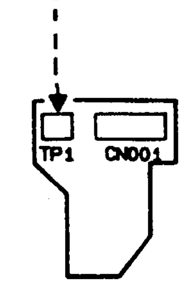
1 SWITCHING POINT

1. "PB", Alignment tape SPC-SD(SR2-2).
2. W3V56 (H'd SW), AV V.O (I/O PCB) & VR201.
3. * Connect an oscilloscope's CH-1 to W3V56 for triggering and CH-2 to AV V.O (I/O PCB).
   - * Adjust VR201 so that the switching point is positioned 6.5 ± 0.5 H from the V-SYNC left edge as shown.


SW25Hz Pluse
Switching Point
V-SYNC
VIDEO OUTPUT
6. 5±0. 5H

2 AUDIO BIAS LEVEL

1. "REC"(SP mode), No signal input.
2. TP1 (A/C Head) & VR501.
3. * Connect AC voltmeter probes to TP1 on the A/C Head PCB.
   - * Adjust VR501 so that the reading on the AC voltmeter becomes 2.5mVrms.



A/C HEAD PCB

4-4. VIDEO SECTION

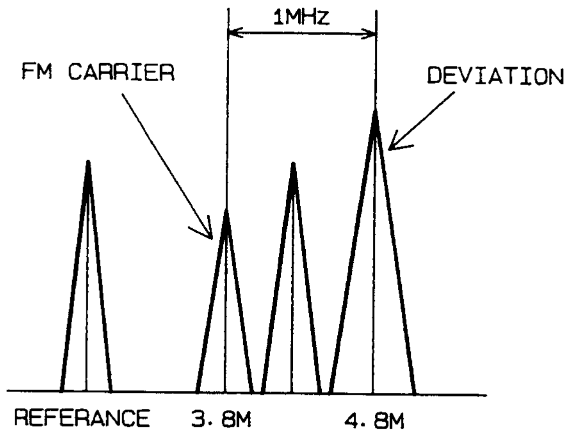
STEP	ADJUSTMENT ITEM

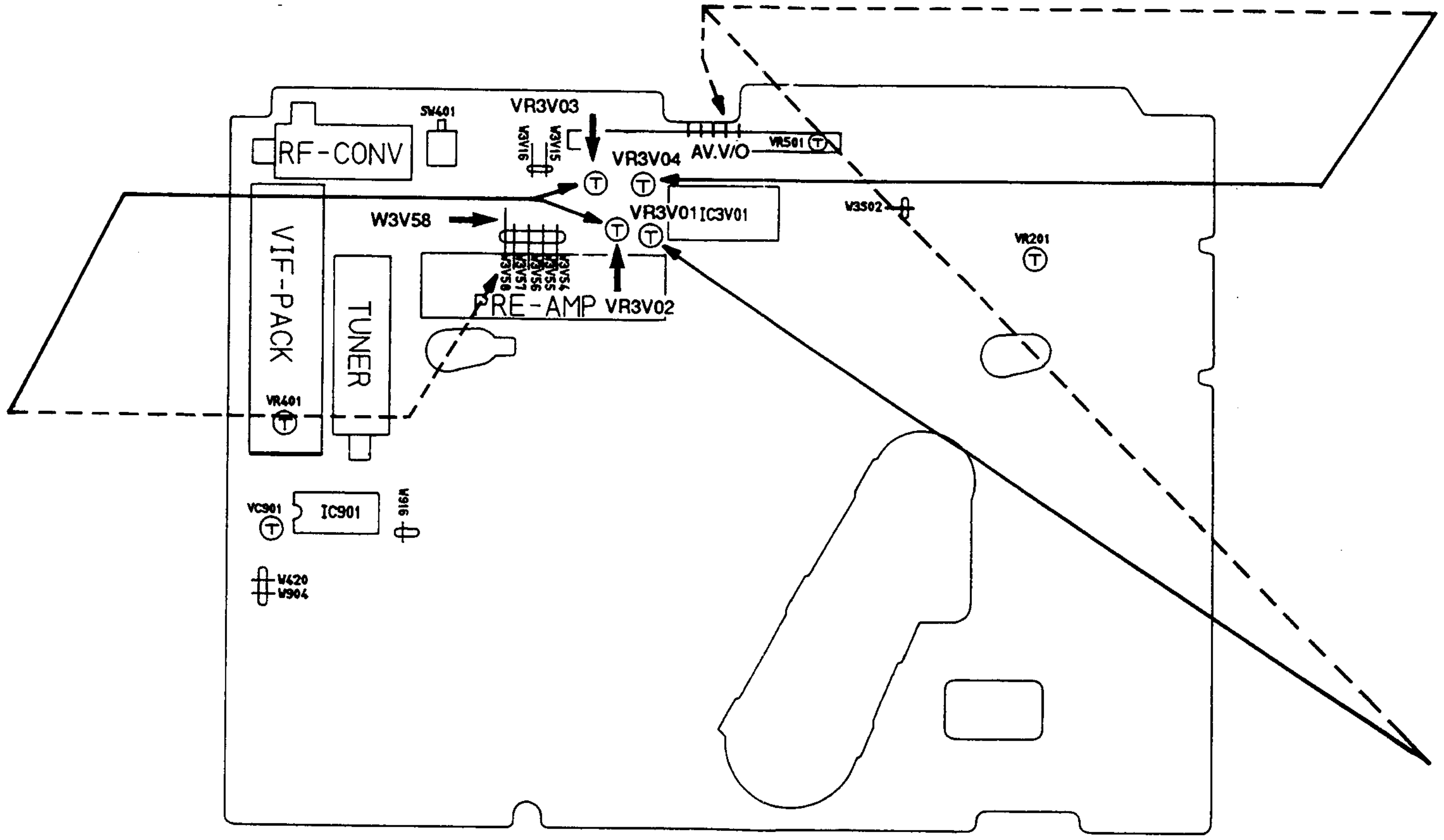
1. MODE and INPUT SIGNAL/ALIGNMENT TAPE
2. TEST POINT and ADJ. part
3. RESULT & REMARKS

ADJ. part →
Test Point - - →

3 FM CARRIER & DEVIATION

1. "REC", 100% white signal (AV V. IN jack on the rear panel).
2. W3V58 & VR3V02 (DEVIATION), VR3V03 (FM CARRIER).
3. * Connect tracking scope to W3V58.
   * Adjust VR3V03 so that the frequency is 3.8 ± 0.1 MHz.
   * Adjust VR3V02 so that the frequency is 4.8 ± 0.1 MHz.

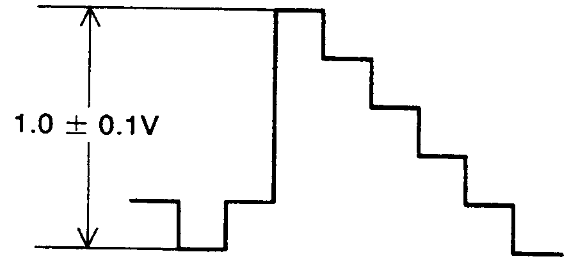



RF-CONV
SW401
VR3V03
W3V16
W3V15
VR3V04
AV.V/O
VR501
W3V58
VR3V01
IC3V01
W3502
VR201
VIF-PACK
TUNER
W3V58
W3V57
W3V56
W3V55
W3V54
PRE-AMP
VR3V02
VR401
VC901
IC901
W916
W420
W904

MAIN PCB

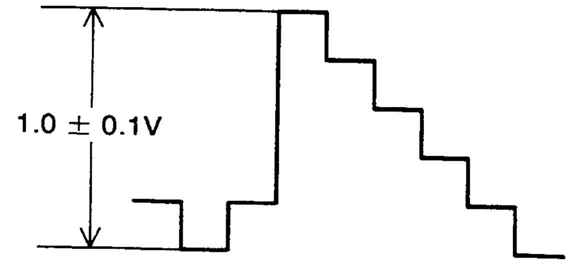
1 VIDEO E-E LEVEL

1. "E-E" (stop mode), Color bar signal (AV V. IN jack on the rear panel).
2. AV V/O (I/O PCB) & VR3V04.
3. * Connect an oscilloscope CH-1 to AV V/O (I/O PCB).
   * Adjust VR404 for 1.0 ± 0.1 Vp-p from sync tip to white peak level.



2 VIDEO PB LEVEL

1. "PB", Alignment tape SPC-SD(SR2-2).
2. AV V/O (I/O PCB) & VR3V01.
3. * Connect an oscilloscope CH-1 to AV V/O (I/O PCB).
   * Connect V. OUT jack on the rear panel (scart terminals).
   * Adjust VR401 so that PB level becomes 1.0 ± 0.1 Vp-p.



5. ELECTRICAL PARTS LIST

5-1. GENERAL INFORMATION

1. Parts Replacement

> *Many electrical and mechanical parts in Video Cassette Recorder (Player) have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual ; electrical components having such features are identified by ⚠ in the replacement parts lists and schematic diagrams. The use of a replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.*

2. Unless otherwise specified :

1) **All resistors are in ohms (Ω)**

- K = 1,000
- M = 1,000K

* **RD** : 1/4W, ± 5% Carbon
* **RM** : 1/8W, ± 5% Metal-film

2) **All capacitors are in ± 10%, MF = μF.**

* CC : PF = uuF, Ceramic, Temp
* CK : PK = uuF, Ceramic, MK
* CS : Tantalium
* CQ : Polyester
* CE : Electrolytic

3) **All coils are in microhenry (uH)**

- **1mH** = 1,000uH

3. ASS'Y = Assembly

4. ⚠ Mark : Safety related parts.

5. How to order replacement parts

To have your order filed promptly and correctly, please furnish the following informations.

1) Model Number
2) Location Number
3) Part Number
4) Description & Specification

5-2. ELECTRICAL REPLACEMENT PARTS LIST

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
660	69097-235-800	ASSY SMPS;PAL 230V INLET W-2 NEW
BD1	B4104-0065	DIODE-RECT;S1WB60 600V 1A BRIDGE GE
C01	61419-001-001	C-FILM;KNB1530 0.1UF/AC250V
C02	61419-001-001	C-FILM;KNB1530 0.1UF/AC250V
C03	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K
C04	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K
C05	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K
C06	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K
C11	A1104-0511	C-ELEC;CE 04 B 400V T 470-M SMH400VB47M 18X25
C12	61507-121-531	C-POLYESTER;CQ921M TAPG 50V 333-J
C13	A1104-0549	C-ELEC;CE 04 D 50V 220-M STX/KME -55/105
C14	61507-121-340	C-POLYESTER;CQ921M TAPG 50V 102-K
C15	A1104-0548	C-ELEC;CE 04 D 50V 2R2-M STX/KME -55/105
C17	A1102-0219	C-FILM;CQ 922 P 630V T 103-K SC-ARD135
C18	61419-001-006	C-CERAMIC;CKB3A 101K 06BS 1KV
C19	61507-121-440	C-POLYESTER;CQ921M TAPG 50V 562-K
C20	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C31	61637-511-100	C-ELEC;CEAP 100V 10M SG(6.3X11)
C33	A1104-0373	C-ELEC;CE 04 F 25V T 331-M STX/KME -40/105
C34	A1104-0373	C-ELEC;CE 04 F 25V T 331-M STX/KME -40/105
C35	A1104-0480	C-ELEC;CE 04 F 16V T 471-M STX/KME -40/105
C36	A1104-0497	C-ELEC;CE 04 F 16V T 331-M STX -40/105 330MF
C37	A1104-0203	C-ELEC;CE 04 D 50V 470-M STX/KME 47UF -55/105
C38	A1104-0383	C-ELEC;CE 04 F 10V T 101-M STX/KME -40/105
C39	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C40	61507-121-470	C-POLYESTER;CQ921M TAPG 50V 103-K
CN01	A3040-0071	JACK-AC,INLET;BSP-9221 2P PAL
CN02	A6010-0407	CONNECTOR-WAFER;28-5085-009-000 BLK
D11	B4102-0006	DIODE-FR;EG01C(3.3)V 500MA (0.1)US
D12	62169-406-482	DIODE;1N4148 SAMSUNG
D13	B4102-0047	DIODE-FR;ERA18-04V1 400V 800MA 0.4US T
D31	B4102-0047	DIODE-FR;ERA18-04V1 400V 800MA 0.4US T
D33	B4102-0050	DIODE-FR;D3L20U 200V 2.5A 35NS STICK
D34	B4102-0050	DIODE-FR;D3L20U 200V 2.5A 35NS STICK
D36	B4102-0047	DIODE-FR;ERA18-04V1 400V 800MA 0.4US T
D39	B4102-0047	DIODE-FR;ERA18-04V1 400V 800MA 0.4US T
F01	B3065-0157	FUSE;FST 250V 1.6A 20MM SEMKO S505 C
IC01	B4008-1054	IC-S/W REGU;FA5311 DIP STICK
IC02	B4161-0019	PHOTO-COUPLER;PC121FY
IC03	A4008-0757	IC;KA431Z TO-92 TAPING
L01	64529-420-230	LINE FILTER;SHL 030
L02	A1132-0008	COIL-PEAKING;10UH-J RA EL0606RA-100J Q80
L31	A1160-0016	INDUCTOR;70UH-M RT BFS3565R2F
L32	A1132-0008	COIL-PEAKING;10UH-J RA EL0606RA-100J Q80
L33	A1160-0016	INDUCTOR;70UH-M RT BFS3565R2F
PT01	A1206-0030	TRANS-SWITCHING;P:85-264V S:3.3-33V DEMKO
Q01	B4054-0036	FET;2SK903 40W 3A 800V MOS/N-CHANNEL
R11	B1004-0198	R-METAL OXIDE;RS 2 T 333-J/ERG2SJ333E
R12	B1004-0198	R-METAL OXIDE;RS 2 T 333-J/ERG2SJ333E
R13	61048-177-512	R-CARBON;RD 1/8 T 512-J
R14	61048-177-181	R-CARBON;RD 1/8 T 181-J
R15	61048-177-181	R-CARBON;RD 1/8 T 181-J
R16	61048-177-220	R-CARBON;RD 1/8 T 220-J
R17	61018-227-623	R-CARBON;RD 1/4 P 62K-J
R18	61018-227-623	R-CARBON;RD 1/4 P 62K-J
R19	61048-277-333	R-CARBON;RD 1/4 T 333-J
R20	61018-227-623	R-CARBON;RD 1/4 P 62K-J
R21	61048-177-104	R-CARBON;RD 1/8 T 104-J
R22	A1014-0011	R-CEMENT;RWC 2R 2R7-K
R24	61048-177-270	R-CARBON;RD 1/8 T 270-J
R25	A1014-0014	R-CEMENT;RWC 2R(S) R47-K
R26	61048-177-101	R-CARBON;RD 1/8 T 101-J
R31	B1004-0273	R-METAL OXIDE;RS 1 RT 621-J ERG1SJ621E
R32	B1004-0273	R-METAL OXIDE;RS 1 RT 621-J ERG1SJ621E
R33	61048-177-391	R-CARBON;RD 1/8 T 391-J
R34	61048-177-122	R-CARBON;RD 1/8 T 122-J
R35	61048-177-102	R-CARBON;RD 1/8 T 102-J
R36	A1006-0592	R-METAL FILM;RM 1/8 T 3K-F
R37	B1004-0227	R-METAL OXIDE;RS 2 R 101-J/ERG2SJ101E
R38	A1006-0423	R-METAL FILM;RM 1/8 T 2.2K-F
ZD11	62169-423-096	DIODE-ZENER;MTZ 22D
ZD12	62169-423-030	DIODE-ZENER;MTZ-18C
ZD13	A4106-0006	ZENER DIODE;MTZ 4.7B
ZD14	62169-403-829	DIODE-ZENER;MTZ 30D
**		
	V9099-625-743	ASSY-REMOCON;ABS94HB VXK-356/SEG
	V4043-0051-00	DOOR-BATTERY;NR-2559M ABS94HB GRAY
	V4043-0055-01	HIDDEN-DOOR;ABS94HB VXK-306
CT01	61637-802-479	C-ELEC;CEAP 6.3V 4.7M SE(3X5)
CT02	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT MA
CT03	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT MA
DT01	62309-112-041	LED-IR;GL538
DT02	62309-112-041	LED-IR;GL538
ICT01	A4002-0389	IC-MCU;KSS1810-05 DIP
QT01	A4050-0140	TR-GENERAL,CHIP;2SC2412KR 200MW 100MA
RT01	61079-917-010	R-CHIP;RH C2012 CS 010-J
XT01	64539-102-311	CERAMIC RESONATOR;CSB455EBL/KBR455BKTL
**		
670		ASSY F/TIMER
	69371-302-325	VXK-356/SEG
	69371-302-323	VXK-356/AMF/SEC/NSI/SEP/SEI
C701	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C703	61407-101-320	C-CERAMIC.TEMP;CC45 SL TAPG 50V 82-J
C704	61407-101-480	C-CERAMIC.TEMP;CC45 SL TAPG 50V 330-J
C709	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C710	61407-117-102	C-CERAMIC.AXIAL;CAX B TAPG 102K-T
C711	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C713	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
CN701	B6010-0797	CONNECTOR-WAFER;HLEM 35R-1 BLK
CN702	66439-0049-00	CONNECTOR WIRE(ASSY);9073/5231-03 2547#26 45C
D702	62169-406-482	DIODE;1N4148 SAMSUNG
D703	62169-406-482	DIODE;1N4148 SAMSUNG
D704	62169-406-482	DIODE;1N4148 SAMSUNG
D705	62169-406-482	DIODE;1N4148 SAMSUNG
D706	62169-406-482	DIODE;1N4148 SAMSUNG
D712	62169-406-482	DIODE;1N4148 SAMSUNG
D714	62169-102-057	DIODE-SHOTTKY;1SS108TA
D715	62169-102-057	DIODE-SHOTTKY;1SS108TA
D724	62169-406-482	DIODE;1N4148 SAMSUNG
D725	62169-406-482	DIODE;1N4148 SAMSUNG
D726	62169-406-482	DIODE;1N4148 SAMSUNG
D727	62169-406-482	DIODE;1N4148 SAMSUNG
D728	62169-406-482	DIODE;1N4148 SAMSUNG
DT701	A4153-0043	V.F DISPLAY;SVV-10BS05 VTR
JA701	A3040-0004	JACK PIN;PI10 DSP-8805-03 YEL 3
JA702	A3040-0003	JACK PIN;DSP-8805-03(WHT)
L702	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
LD704	62309-112-140	LED;KLG 123E(GREEN)
Q701	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q702	62137-701-020	TRANSISTOR;KSR 2001 TAPG
Q703	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q704	62137-701-020	TRANSISTOR;KSR 2001 TAPG
Q705	62137-701-013	TRANSISTOR;KSR 1004 TAPG
R701	61048-177-473	R-CARBON;RD 1/8 T 473-J
R704	61048-177-221	R-CARBON;RD 1/8 T 221-J

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
R707	61048-177-472	R-CARBON;RD 1/8 T 472-J
R710	61048-177-472	R-CARBON;RD 1/8 T 472-J
R711	61048-277-101	R-CARBON;RD 1/4 T 101-J
R712	61048-177-683	R-CARBON;RD 1/8 T 683-J
R713	61048-177-683	R-CARBON;RD 1/8 T 683-J
R714	61048-177-683	R-CARBON;RD 1/8 T 683-J
R715	61048-177-683	R-CARBON;RD 1/8 T 683-J
R716	61048-177-683	R-CARBON;RD 1/8 T 683-J
R717	61048-177-683	R-CARBON;RD 1/8 T 683-J
R718	61048-177-683	R-CARBON;RD 1/8 T 683-J
R719	61048-177-683	R-CARBON;RD 1/8 T 683-J
R720	61048-177-683	R-CARBON;RD 1/8 T 683-J
R721	61048-177-683	R-CARBON;RD 1/8 T 683-J
R722	61048-177-683	R-CARBON;RD 1/8 T 683-J
R723	61048-177-683	R-CARBON;RD 1/8 T 683-J
R724	61048-177-683	R-CARBON;RD 1/8 T 683-J
R725	61048-177-683	R-CARBON;RD 1/8 T 683-J
R726	61048-177-683	R-CARBON;RD 1/8 T 683-J
R727	61048-177-683	R-CARBON;RD 1/8 T 683-J
R728	61048-177-683	R-CARBON;RD 1/8 T 683-J
R729	61048-177-683	R-CARBON;RD 1/8 T 683-J
R730	61048-177-683	R-CARBON;RD 1/8 T 683-J
R731	61048-177-683	R-CARBON;RD 1/8 T 683-J
R732	61048-177-224	R-CARBON;RD 1/8 T 224-J
R734	61048-177-750	R-CARBON;RD 1/8 T 750-J
R735	61048-177-472	R-CARBON;RD 1/8 T 472-J
R736	61048-177-472	R-CARBON;RD 1/8 T 472-J
R737	61048-277-101	R-CARBON;RD 1/4 T 101-J
R738	61048-177-102	R-CARBON;RD 1/8 T 102-J
R739	61048-177-562	R-CARBON;RD 1/8 T 562-J
R740	A1006-0550	R-CARBON;RD 1/4 T 5R1-J
R741	61048-177-472	R-CARBON;RD 1/8 T 472-J
R742	61048-177-472	R-CARBON;RD 1/8 T 472-J
R743	A1006-0550	R-CARBON;RD 1/4 T 5R1-J
RM701	A1294-0015	MODULE-REMOCON;GP1U781R/ASAN 38KHZ
SW701	63599-016-070	SW-TACT;EVQ-QS2 05K
SW702	63599-016-070	SW-TACT;EVQ-QS2 05K
SW703	63599-016-070	SW-TACT;EVQ-QS2 05K
SW704	63599-016-070	SW-TACT;EVQ-QS2 05K
SW705	63599-016-070	SW-TACT;EVQ-QS2 05K
SW707	63599-016-070	SW-TACT;EVQ-QS2 05K
SW708	63599-016-070	SW-TACT;EVQ-QS2 05K
SW709	63599-016-070	SW-TACT;EVQ-QS2 05K
SW710	63599-016-070	SW-TACT;EVQ-QS2 05K
SW723	63599-016-070	SW-TACT;EVQ-QS2 05K
SW726	63519-073-020	SW-SLIDE;SSS 323
SW727	63519-073-021	SW-SLIDE;SSS 322
VR701	B1052-0001	VR-ROTARY.BLOCK;RK16Y12S-100KBX1 100KBX4
ZD701	62169-423-092	DIODE-ZENER;MTZ 6.8B/UZ 6.8BH

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LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
600	69357-302-418	ASSY MAIN;VXK-356

POWER PARTS

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C151	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C152	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C153	61637-508-470	C-ELEC;CEAP 50V 47M SG(6.3X11)
C155	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C156	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C162	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
CN151	A6010-0406	CONNECTOR-WAFER;18-5065-009-000 BLK
D151	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D152	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D153	62169-406-482	DIODE;1N4148 SAMSUNG
D155	62169-406-482	DIODE;1N4148 SAMSUNG
D156	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D157	62169-406-482	DIODE;1N4148 SAMSUNG
D158	62169-406-482	DIODE;1N4148 SAMSUNG
IC151	62119-401-313	IC;PQ12RF11
Q152	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q153	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q154	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q155	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
Q156	62147-401-835	TRANSISTOR;KSA 928A-Y TAPG
Q157	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q158	62137-701-012	TRANSISTOR;KSR 1003 TAPG
Q159	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q160	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
R151	61048-177-223	R-CARBON;RD 1/8 T 223-J
R152	61079-917-333	R-CHIP;RH C2012 CS 333-J
R153	61079-917-102	R-CHIP;RH C2012 CS 102-J
R154	61079-917-122	R-CHIP;RH C2012 CS 122-J
R155	61048-277-271	R-CARBON;RD 1/4 T 271-J
R156	61048-177-102	R-CARBON;RD 1/8 T 102-J
R157	61048-277-102	R-CARBON;RD 1/4 T 102-J
R158	61079-917-152	R-CHIP;RH C2012 CS 152-J
R159	61079-917-392	R-CHIP;RH C2012 CS 392-J
R160	61048-177-122	R-CARBON;RD 1/8 T 122-J
R161	61079-917-122	R-CHIP;RH C2012 CS 122-J
R638	61048-277-121	R-CARBON;RD 1/4 T 121-J
ZD151	62169-403-821	DIODE-ZENER;MTZ 5.1B
ZD152	62169-403-838	DIODE-ZENER;MTZ27C
ZD153	62169-403-821	DIODE-ZENER;MTZ 5.1B

SYSTEM CONTROL PARTS

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C601	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C602	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C603	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT MA
C604	61637-503-471	C-ELEC;CEAP 10V 470M SG(8X11.5)
C605	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C606	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C607	B1104-0294	C-ELEC;CE 03E 5.5V T 104F Z SUPER/EECS5R5T104
C609	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C610	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C611	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C612	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C613	61637-204-330	C-ELEC;CEAP 16V 33M SA(5X11)
C630	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT MA
C640	A1100-0015	C-CERAMIC.CHIP;2012B 152K
C641	61453-131-152	C-CERAMIC.CHIP;0805 5C 152KAT MA
C643	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C645	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C646	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
CN601	B6010-0798	CONNECTOR-WAFER;HLEM 35S-1 BLK
CN603	B6010-0256	CONNECTOR WAFER;52556-0790 WHT
D601	62169-406-482	DIODE;1N4148 SAMSUNG

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
D602	62169-406-482	DIODE;1N4148 SAMSUNG
D604	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D605	62169-406-482	DIODE;1N4148 SAMSUNG
IC601	B4002-0405	IC-MCU;HD6433726-A35F VFK-356 QFP
IC602	62119-401-300	IC;KA8301(N.M)
IC603	B4012-0110	IC-LINEAR;XL24C02 DIP
IC604	62119-101-770	IC;TC4094BP/CD4094BCN
IC606	62119-103-712	IC;TC4021BP
IC607	A4008-0754	IC;KA7533 DIP
L601	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L602	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
L603	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
L604	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
LD601	62309-112-043	LED IR;GL-451(SHARP)
Q601	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q602	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q641	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q643	66219-0010-00	SENSOR-PHOTO TRANSISTOR;PT 493F
Q644	66219-0010-00	SENSOR-PHOTO TRANSISTOR;PT 493F
Q646	66419-0001-00	INTERUPTER-PHOTO;SG-105LF
R553	61048-177-102	R-CARBON;RD 1/8 T 102-J
R601	61048-177-122	R-CARBON;RD 1/8 T 122-J
R602	61048-177-513	R-CARBON;RD 1/8 T 513-J
R604	61048-177-682	R-CARBON;RD 1/8 T 682-J
R606	61048-177-102	R-CARBON;RD 1/8 T 102-J
R609	61048-177-472	R-CARBON;RD 1/8 T 472-J
R610	61079-917-000	R-CHIP;RH C2012 CS 000-J
R611	61079-917-683	R-CHIP;RH C2012 CS 683-J
R612	61079-917-511	R-CHIP;RH C2012 CS 511-J
R613	61079-917-270	R-CHIP;RH C2012 CS 270-J
R614	61048-177-472	R-CARBON;RD 1/8 T 472-J
R618	61079-917-472	R-CHIP;RH C2012 CS 472-J
R619	61079-917-472	R-CHIP;RH C2012 CS 472-J
R620	61048-177-102	R-CARBON;RD 1/8 T 102-J
R621	61048-177-221	R-CARBON;RD 1/8 T 221-J
R630	B1004-0229	R-METAL OXIDE;RS 1R 7.5-J/ERX1SJ7R5E
R631	B1004-0229	R-METAL OXIDE;RS 1R 7.5-J/ERX1SJ7R5E
R635	61048-177-102	R-CARBON;RD 1/8 T 102-J
R636	61048-177-102	R-CARBON;RD 1/8 T 102-J
R637	61048-177-102	R-CARBON;RD 1/8 T 102-J
R639	61079-917-105	R-CHIP;RH C2012 CS 105-J
R640	61079-917-224	R-CHIP;RH C2012 CS 224-J
R642	61079-917-203	R-CHIP;RH C2012 CS 203-J
R643	61079-917-472	R-CHIP;RH C2012 CS 472-J
R644	61079-917-472	R-CHIP;RH C2012 CS 472-J
R645	61079-917-472	R-CHIP;RH C2012 CS 472-J
R646	61079-917-472	R-CHIP;RH C2012 CS 472-J
R647	61079-917-224	R-CHIP;RH C2012 CS 224-J
R648	61079-917-391	R-CHIP;RH C2012 CS 391-J
R649	61079-917-274	R-CHIP;RH C2012 CS 274-J
R650	61079-917-000	R-CHIP;RH C2012 CS 000-J
R651	61048-177-102	R-CARBON;RD 1/8 T 102-J
R652	61048-177-102	R-CARBON;RD 1/8 T 102-J
R654	61048-177-102	R-CARBON;RD 1/8 T 102-J
R655	61048-177-471	R-CARBON;RD 1/8 T 471-J
R656	61048-177-471	R-CARBON;RD 1/8 T 471-J
R661	61048-177-102	R-CARBON;RD 1/8 T 102-J
R663	61048-177-102	R-CARBON;RD 1/8 T 102-J
R670	61048-177-102	R-CARBON;RD 1/8 T 102-J
R671	61048-177-102	R-CARBON;RD 1/8 T 102-J
R672	61048-177-102	R-CARBON;RD 1/8 T 102-J
R674	61048-177-102	R-CARBON;RD 1/8 T 102-J
R675	61048-177-102	R-CARBON;RD 1/8 T 102-J
R676	61048-177-682	R-CARBON;RD 1/8 T 682-J
R677	61048-177-102	R-CARBON;RD 1/8 T 102-J
R678	61079-917-303	R-CHIP;RH C2012 CS 303-J
R679	61048-177-102	R-CARBON;RD 1/8 T 102-J
R679	61079-917-000	R-CHIP;RH C2012 CS 000-J
R680	61048-177-102	R-CARBON;RD 1/8 T 102-J
R682	61079-917-000	R-CHIP;RH C2012 CS 000-J
R683	61079-917-103	R-CHIP;RH C2012 CS 103-J
R683	61048-177-102	R-CARBON;RD 1/8 T 102-J
R684	61048-177-102	R-CARBON;RD 1/8 T 102-J
R685	61079-917-103	R-CHIP;RH C2012 CS 103-J
R686	61079-917-103	R-CHIP;RH C2012 CS 103-J
R687	61079-917-102	R-CHIP;RH C2012 CS 102-J
R688	61079-917-102	R-CHIP;RH C2012 CS 102-J
R689	61048-177-102	R-CARBON;RD 1/8 T 102-J
R690	61048-177-102	R-CARBON;RD 1/8 T 102-J
R691	61048-177-102	R-CARBON;RD 1/8 T 102-J
R692	61048-177-102	R-CARBON;RD 1/8 T 102-J
R693	61048-177-102	R-CARBON;RD 1/8 T 102-J
R694	61048-177-102	R-CARBON;RD 1/8 T 102-J
R695	61079-917-000	R-CHIP;RH C2012 CS 000-J
R695	61048-177-102	R-CARBON;RD 1/8 T 102-J
R696	61079-917-000	R-CHIP;RH C2012 CS 000-J
R697	61048-177-102	R-CARBON;RD 1/8 T 102-J
R697	61079-917-000	R-CHIP;RH C2012 CS 000-J
R698	61079-917-223	R-CHIP;RH C2012 CS 223-J
R699	61079-917-102	R-CHIP;RH C2012 CS 102-J
R699	61048-177-102	R-CARBON;RD 1/8 T 102-J
SW640	66209-0008-00	SWITCH-REC;MPU 10105 MMBO 5V
XT601	B1283-0036	RESONATOR-CERAMIC;8MHZ EFOEC8004T4 3/CN
XT602	64539-021-009	CRYSTAL;32.768KHZ

SERVO PARTS

C201	61507-121-540	C-POLYESTER;CQ921M TAPG 50V 393-K
C202	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C203	61453-131-392	C-CERAMIC.CHP;0805 5C 392KAT MA
C204	A1100-0135	C-CERAMIC.CHP:2012B 473K
C205	61637-204-220	C-ELEC;CEAP 16V 22M SA
C206	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C207	61627-208-010	C-ELEC;CEAP 50V 1M NP(6X11)
C208	A1100-0015	C-CERAMIC.CHP:2012B 152K
C209	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C210	61453-130-471	C-CERAMIC.CHP;0805 5A 471KAT MA
C211	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C212	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C213	61637-208-479	C-ELEC;CEAP 50V 4.7M SA(5X11)
C214	61637-208-479	C-ELEC;CEAP 50V 4.7M SA(5X11)
C215	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C216	A1100-0563	C-CERAMIC;CK OA Y 50V T 1500-N
C217	A1100-0010	C-CERAMIC.CHP:2012B 102K
C218	A1100-0044	C-CERAMIC.CHP:2012B 223K
C219	61627-204-479	C-ELEC;CEAP 16V 4.7M NP(4X7)
C220	61453-131-221	C-CERAMIC.CHP;0805 5A 221JAT MA
C221	61453-131-271	C-CERAMIC.CHP;0805 5A 271JAT MA
C222	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C223	61617-404-220	C-ELEC;CEAP 16V 22M RSS(5X7)
C224	B1102-0112 _	C-FILM;CQ298PVT 224J/ECQV1H224JZ3
C225	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J
C226	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J
C229	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C230	61617-404-220	C-ELEC;CEAP 16V 22M RSS(5X7)
C231	61637-204-220	C-ELEC;CEAP 16V 22M SA
C232	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C233	61454-140-223	C-CERAMIC.CHP;08055C 223JAT MA
C234	A1100-0017	C-CERAMIC.CHP:2012F 104Z
CN201	63053-916-589	LEAD CONNECTOR ASSY;#26 8283/9073-06 190MM
CN202	B6010-0254	CONNECTOR WAFER;52556-0990 WHT
D201	62169-406-482	DIODE;1N4148 SAMSUNG
D202	62169-406-482	DIODE;1N4148 SAMSUNG
D204	62169-406-482	DIODE;1N4148 SAMSUNG

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
D207	62169-406-482	DIODE;1N4148 SAMSUNG
D209	62169-406-482	DIODE;1N4148 SAMSUNG
D210	62169-406-482	DIODE;1N4148 SAMSUNG
D211	62169-406-482	DIODE;1N4148 SAMSUNG
IC201	A4012-0307	IC-LINEAR;KA8325B QFP
Q201	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q202	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q203	62137-701-022	TRANSISTOR;KSR 2003 TAPG
R201	61079-917-102	R-CHIP;RH C2012 CS 102-J
R203	61079-917-000	R-CHIP;RH C2012 CS 000-J
R205	61048-177-562	R-CARBON;RD 1/8 T 562-J
R206	61048-177-472	R-CARBON;RD 1/8 T 472-J
R207	61048-177-154	R-CARBON;RD 1/8 T 154-J
R208	61048-177-394	R-CARBON;RD 1/8 T 394-J
R209	61079-917-273	R-CHIP;RH C2012 CS 273-J
R210	61079-917-393	R-CHIP;RH C2012 CS 393-J
R211	61079-917-105	R-CHIP;RH C2012 CS 105-J
R212	61079-917-274	R-CHIP;RH C2012 CS 274-J
R213	61048-177-122	R-CARBON;RD 1/8 T 122-J
R214	61048-177-102	R-CARBON;RD 1/8 T 102-J
R215	61079-917-105	R-CHIP;RH C2012 CS 105-J
R216	61079-917-105	R-CHIP;RH C2012 CS 105-J
R217	61079-917-564	R-CHIP;RH C2012 CS 564-J
R218	61079-917-473	R-CHIP;RH C2012 CS 473-J
R219	61079-917-000	R-CHIP;RH C2012 CS 000-J
R222	61079-917-102	R-CHIP;RH C2012 CS 102-J
R223	61048-177-202	R-CARBON;RD 1/8 T 202-J
R224	61079-917-105	R-CHIP;RH C2012 CS 105-J
R225	61079-917-103	R-CHIP;RH C2012 CS 103-J
R226	61048-177-431	R-CARBON;RD 1/8 T 431-J
R227	61048-177-431	R-CARBON;RD 1/8 T 431-J
R228	61048-177-474	R-CARBON;RD 1/8 T 474-J
R229	61079-917-823	R-CHIP;RH C2012 CS 823-J
R230	61079-917-823	R-CHIP;RH C2012 CS 823-J
R231	61079-917-183	R-CHIP;RH C2012 CS 183-J
R232	61079-917-154	R-CHIP;RH C2012 CS 154-J
R234	61048-177-561	R-CARBON;RD 1/8 T 561-J
R235	61048-177-683	R-CARBON;RD 1/8 T 683-J
R236	61079-917-224	R-CHIP;RH C2012 CS 224-J
R237	61048-177-103	R-CARBON;RD 1/8 T 103-J
R238	61048-177-222	R-CARBON;RD 1/8 T 222-J
R239	61048-177-752	R-CARBON;RM 1/8 T 752-J
R240	61048-177-822	R-CARBON;RD 1/8 T 822-J
R241	61048-177-912	R-CARBON;RD 1/8 T 912-J
R242	61048-177-433	R-CARBON;RD 1/8 T 433-J
R244	61079-917-433	R-CHIP;RH C2012 CS 433-J
R245	61048-177-334	R-CARBON;RD 1/8 T 334-J
R246	61048-177-223	R-CARBON;RD 1/8 T 223-J
R248	61079-917-562	R-CHIP;RH C2012 CS 562-J
R249	61079-917-682	R-CHIP;RH C2012 CS 682-J
R298	61079-917-102	R-CHIP;RH C2012 CS 102-J
R299	61079-917-123	R-CHIP;RH C2012 CS 123-J
R665	61079-917-000	R-CHIP;RH C2012 CS 000-J
VR201	61247-101-104	VR-SEMI;EVN-DJA A03B15 TAPG 100KB
ZD208	62169-423-092	DIODE-ZENER;MTZ 6.8B/UZ 6.8BH
ZD209	62169-423-092	DIODE-ZENER;MTZ 6.8B/UZ 6.8BH

TUNER PARTS

C4A1	61637-208-100	C-ELEC;CEAP 50V 10M SA(5X11)
C4A2	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C4A3	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C4A4	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C4A5	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C4A6	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C4A6	61637-505-101	C-ELEC;CEAP 25V 100M SG(6.3X11)
D4A1	62169-406-482	DIODE;1N4148 SAMSUNG

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
D4A2	62169-406-482	DIODE;1N4148 SAMSUNG
D4A3	62169-406-482	DIODE;1N4148 SAMSUNG
IC4A1	62119-501-561	IC-L;KA33V TAPG
J4A1	66449-0002-00	CABLE-IF;SD SD-C1238-3 L30
L4A1	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
Q4A1	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q4A2	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q4A3	62137-701-020	TRANSISTOR;KSR 2001 TAPG
Q4A4	A4056-0036	TR-SWITCHING,CHIP;KSR2101 200MW 200MHZ
Q4A5	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q4A6	A4056-0036	TR-SWITCHING,CHIP;KSR2101 200MW 200MHZ
Q4A7	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q4A8	A4056-0036	TR-SWITCHING,CHIP;KSR2101 200MW 200MHZ
Q4A9	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
R4A0	61079-917-335	R-CHIP;RH C2012 CS 335-J
R4A1	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4A2	61079-917-432	R-CHIP;RH C2012 CS 432-J
R4A3	61079-917-223	R-CHIP;RH C2012 CS 223-J
R4A5	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4A6	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4A7	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4A8	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4A9	61079-917-822	R-CHIP;RH C2012 CS 822-J
R4B1	61079-917-335	R-CHIP;RH C2012 CS 335-J
R4B2	61079-917-335	R-CHIP;RH C2012 CS 335-J
R4B3	61079-917-223	R-CHIP;RH C2012 CS 223-J
R4B4	61079-917-223	R-CHIP;RH C2012 CS 223-J
R4B5	61079-917-223	R-CHIP;RH C2012 CS 223-J
R4B6	61079-917-103	R-CHIP;RH C2012 CS 103-J
R4B7	61079-917-473	R-CHIP;RH C2012 CS 473-J
U4A1	67189-0036-00	CONVERTER-RF;MDLK6D955A PAL G
U4A2	B1292-0037	TUNER;TEKE4-012A 106CH PAL/EUROPE V/S
W213	61048-177-122	R-CARBON;RD 1/8 T 122-J
ZD4A1	62169-403-821	DIODE-ZENER;MTZ 5.1B

I/O MAIN PARTS

DC01	62169-406-482	DIODE;1N4148 SAMSUNG
DC02	62169-406-482	DIODE;1N4148 SAMSUNG
RC01	61079-917-104	R-CHIP;RH C2012 CS 104-J
RC02	61079-917-104	R-CHIP;RH C2012 CS 104-J

AUDIO PARTS

CD1	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
CD2	B1102-0113	C-FILM;CQ298PVT 473J/ECQV1473JZ3
CD3	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
CD4	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
CD5	61507-121-431	C-POLYESTER;CQ921M TAPG 50V 472-J
CN502	B6010-0436	CONNECTOR-WAFER;TMC-E02X-A1 BLK STICK
LD01	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
LD02	62429-014-110	COIL BIAS OSC;B02 70KHZ W(TOKO)VX1850
QD01	62137-702-020	TRANSISTOR;KSC 1008-Y TAPG
QD02	62147-401-835	TRANSISTOR;KSA 928A-Y TAPG
QD03	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
RD1	61079-917-478	R-CHIP;RH C2012 CS 4R7-J
RD2	61079-917-223	R-CHIP;RH C2012 CS 223-J
RD03	61079-917-392	R-CHIP;RH C2012 CS 392-J
RD04	61048-177-152	R-CARBON;RD 1/8 T 152-J
W039	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K

LUMA/CHROMA PARTS

C3V01	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT MA
C3V02	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
C3V03	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT MA
C3V04	61453-131-680	C-CERAMIC CHIP;0805 5A 680JAT MA

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C3V05	61637-606-338	C-ELEC;CEAP 50V 0.33M SV(5X9)
C3V06	61453-131-391	C-CERAMIC.CHIP;0805 5A 391JAT MA
C3V07	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C3V08	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT MA
C3V09	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C3V10	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V11	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V12	61637-606-338	C-ELEC;CEAP 50V 0.33M SV(5X9)
C3V14	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3V15	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V16	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C3V17	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C3V18	A1100-0135	C-CERAMIC.CHIP;2012B 473K
C3V19	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3V20	A1100-0080	C-CERAMIC.CHIP;CC 73 COG 50V T 820-J C2012
C3V21	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT MA
C3V23	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V25	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V26	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C3V27	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C3V28	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3V29	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C3V30	61617-408-019	C-ELEC;CEAP 50V 0.1M RSS(4X7)
C3V31	61617-408-339	C-ELEC;CEAP 50V 3.3M RSS(4X7)
C3V32	61453-130-161	C-CERAMIC CHIP;0805 5E 683MAT MA
C3V33	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V34	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C3V35	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V36	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V38	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V39	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V40	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C3V41	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C3V42	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V45	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C3V46	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V47	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C3V48	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C3V49	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3V50	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V51	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V52	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V53	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V54	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V55	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3V56	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C3V57	61407-117-102	C-CERAMIC.AXIAL;CAX B TAPG 102K-T
C3V58	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3V60	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
D204	62169-406-482	DIODE;1N4148 SAMSUNG
D3V01	62169-406-482	DIODE;1N4148 SAMSUNG
D3V02	62169-406-482	DIODE;1N4148 SAMSUNG
D3V03	62169-406-482	DIODE;1N4148 SAMSUNG
D3V04	62169-406-482	DIODE;1N4148 SAMSUNG
D3V05	62169-406-482	DIODE;1N4148 SAMSUNG
D3V10	62169-406-482	DIODE;1N4148 SAMSUNG
D3V11	62169-406-482	DIODE;1N4148 SAMSUNG
FL3V01	64569-006-011	DELAY LINE;MS-31PC-5K
IC3V01	B4008-0894	IC;LA7397 DIP
IC3V02	B4008-0432	IC;MSM7403RS SIP
L3S05	62427-020-150	COIL PEAKING.AXIAL;LAL02TB 150J TAPG
L3S07	62427-020-150	COIL PEAKING.AXIAL;LAL02TB 150J TAPG
L3V01	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L3V02	62427-020-680	COIL PEAKING.AXIAL;LAL02TB 680J TAPG
L3V04	62427-020-339	COIL PEAKING.AXIAL;LAL02TB 3R3J TAPG
L3V08	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L3V10	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
L3V20	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
L3V98	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L3V99	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
Q3S01	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3V01	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q3V02	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q3V03	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3V04	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3V05	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3V06	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q3V07	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3V08	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3V11	A4056-0036	TR-SWITCHING.CHIP;KSR2101 200MW 200MHZ
Q3V12	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3V14	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3V15	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
R3S27	61079-917-821	R-CHIP;RH C2012 CS 821-J
R3V01	61079-917-682	R-CHIP;RH C2012 CS 682-J
R3V02	61079-917-182	R-CHIP;RH C2012 CS 182-J
R3V03	61079-917-122	R-CHIP;RH C2012 CS 122-J
R3V04	61079-917-472	R-CHIP;RH C2012 CS 472-J
R3V05	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V06	61079-917-222	R-CHIP;RH C2012 CS 222-J
R3V07	61079-917-222	R-CHIP;RH C2012 CS 222-J
R3V08	61079-917-272	R-CHIP;RH C2012 CS 272-J
R3V09	61079-917-681	R-CHIP;RH C2012 CS 681-J
R3V10	61079-917-122	R-CHIP;RH C2012 CS 122-J
R3V11	61079-917-105	R-CHIP;RH C2012 CS 105-J
R3V12	61079-917-822	R-CHIP;RH C2012 CS 822-J
R3V13	61079-917-152	R-CHIP;RH C2012 CS 152-J
R3V14	61079-917-182	R-CHIP;RH C2012 CS 182-J
R3V15	61079-917-823	R-CHIP;RH C2012 CS 823-J
R3V16	61079-917-222	R-CHIP;RH C2012 CS 222-J
R3V17	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V18	61079-917-271	R-CHIP;RH C2012 CS 271-J
R3V19	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V20	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V21	61079-917-223	R-CHIP;RH C2012 CS 223-J
R3V22	61048-177-271	R-CARBON;RD 1/8 T 271-J
R3V23	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V25	61079-917-222	R-CHIP;RH C2012 CS 222-J
R3V26	61048-177-103	R-CARBON;RD 1/8 T 103-J
R3V27	61048-177-202	R-CARBON;RD 1/8 T 202-J
R3V28	61048-177-103	R-CARBON;RD 1/8 T 103-J
R3V29	61048-177-622	R-CARBON;RD 1/8 T 622-J
R3V30	61079-917-103	R-CHIP;RH C2012 CS 103-J
R3V31	61048-177-223	R-CARBON;RD 1/8 T 223-J
R3V32	61048-177-332	R-CARBON;RD 1/8 T 332-J
R3V33	61079-917-102	R-CHIP;RH C2012 CS 102-J
R3V36	61079-917-183	R-CHIP;RH C2012 CS 183-J
R3V37	61079-917-000	R-CHIP;RH C2012 CS 000-J
R3V38	61079-917-472	R-CHIP;RH C2012 CS 472-J
R3V42	61079-917-332	R-CHIP;RH C2012 CS 332-J
R3V44	61079-917-000	R-CHIP;RH C2012 CS 000-J
R3V99	61048-177-333	R-CARBON;RD 1/8 T 333-J
R3VA1	61048-177-751	R-CARBON;RD 1/8 T 751-J
VR3V01	61247-101-222	VR-SEMI;EVN-DJA A03BE3 TAPG 2.2KB
VR3V02	61247-101-103	VR-SEMI;EVN-DJA A03B14 TAPG 10KB
VR3V03	61247-101-103	VR-SEMI;EVN-DJA A03B14 TAPG 10KB
VR3V04	61247-101-103	VR-SEMI;EVN-DJA A03B14 TAPG 10KB
XT3V01	64539-012-079	X-TAL;4.43 3619MHZ 8PPM TAPG

OSD PARTS

C901	61637-208-228	C-ELEC;CEAP 50V 0.22M SA(5X11)
C903	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C904	61637-505-101	C-ELEC;CEAP 25V 100M SG(6.3X11)

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C905	A1100-0044	C-CERAMIC.CHP;2012B 223K
C906	61637-504-101	C-ELEC;CEAP 16V 100M SG(6.3X11)
C907	A1100-0044	C-CERAMIC.CHP;2012B 223K
C908	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C911	61453-131-220	C-CERAMIC.CHP;0805 5A 220JAT MA
C912	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C913	61637-208-478	C-ELEC;CEAP 50V 0.47M SA(5X11)
C915	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C916	61453-130-121	C-CERAMIC.CHP;0805 5A 121JAT MA
C918	61453-131-330	C-CERAMIC.CHP;0805 5A 330JAT MA
C919	61507-121-451	C-POLYESTER;CQ921M TAPG 50V 682-J
C920	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C921	61627-208-010	C-ELEC;CEAP 50V 1M NP(6X11)
C923	61453-131-890	C-CERAMIC.CHP;08055A8R2DAT050M
C924	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C926	61453-131-221	C-CERAMIC.CHP;0805 5A 221JAT MA
C927	61453-131-221	C-CERAMIC.CHP;0805 5A 221JAT MA
D901	62169-406-482	DIODE;1N4148 SAMSUNG
D902	62169-406-482	DIODE;1N4148 SAMSUNG
D903	62169-406-482	DIODE;1N4148 SAMSUNG
D904	62169-406-482	DIODE;1N4148 SAMSUNG
IC901	B4008-1050	IC;LC74790-9024 DIP
L902	62427-020-011	COIL PEAKING.AXIAL;LAL02TB 100J TAPG
L903	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L904	62427-020-569	COIL PEAKING.AXIAL;LAL02TB 5R6J TAPG
Q901	62129-101-172	TRANSISTOR.CHP;KSC 1623G(REEL)
Q902	62129-101-080	TRANSISTOR.CHP;KSA 812-G(REEL)
R901	61079-917-153	R-CHIP;RH C2012 CS 153-J
R902	61079-917-563	R-CHIP;RH C2012 CS 563-J
R903	61048-177-621	R-CARBON;RD 1/8 T 621-J
R904	61048-177-393	R-CARBON;RD 1/8 T 393-J
R905	61048-177-223	R-CARBON;RD 1/8 T 223-J
R906	61079-917-221	R-CHIP;RH C2012 CS 221-J
R908	61079-917-473	R-CHIP;RH C2012 CS 473-J
R909	61079-917-272	R-CHIP;RH C2012 CS 272-J
R911	61079-917-121	R-CHIP;RH C2012 CS 121-J
R915	61079-917-102	R-CHIP;RH C2012 CS 102-J
R916	61079-917-682	R-CHIP;RH C2012 CS 682-J
R917	61079-917-222	R-CHIP;RH C2012 CS 222-J
R918	61079-917-152	R-CHIP;RH C2012 CS 152-J
R920	61079-917-103	R-CHIP;RH C2012 CS 103-J
R921	61079-917-393	R-CHIP;RH C2012 CS 393-J
R922	61079-917-474	R-CHIP;RH C2012 CS 474-J
VC901	61829-302-292	C-TRIMMER;ECR-HA020D41
W930	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
XT901	64539-012-543	CRYSTAL;17.734475M(20ppm)

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LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
601	69312-302-253	ASSY PRE AMP;VXK-356
C301	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C302	A1100-0010	C-CERAMIC.CHP;2012B 102K
C303	61453-131-680	C-CERAMIC CHIP;0805 5A 680JAT MA
C304	61453-131-680	C-CERAMIC CHIP;0805 5A 680JAT MA
C305	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C306	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C307	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C308	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C309	61453-131-220	C-CERAMIC.CHP;0805 5A 220JAT MA
C310	61453-131-220	C-CERAMIC.CHP;0805 5A 220JAT MA
C311	A1100-0010	C-CERAMIC.CHP;2012B 102K
C313	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C314	61453-130-560	C-CERAMIC.CHP;0805 5A 560JAT MA
C315	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C316	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C317	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C319	A1100-0135	C-CERAMIC.CHP;2012B 473K
C320	61407-117-100	C-CERAMIC.AXIAL;CAX SL TAPG 50V 100-J
C321	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C322	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C323	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C324	61453-131-100	C-CERAMIC.CHP;08055A100JAT050M
C325	61407-117-154	C-CERAMIC.AXIAL;CAX B TAPG 50V 151K-T
C326	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C327	A1100-0017	C-CERAMIC.CHP;2012F 104Z
C328	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C337	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT MA
C350	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C352	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C353	61453-131-221	C-CERAMIC.CHP;0805 5A 221JAT MA
C354	61407-117-154	C-CERAMIC.AXIAL;CAX B TAPG 50V 151K-T
C355	61407-105-120	C-CERAMIC.TEMP;CC45 CH TAPG 50V 120-J
C356	61453-131-100	C-CERAMIC.CHP;08055A100JAT050M
C357	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C362	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C363	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C364	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C365	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C366	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT MA
C367	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C370	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C371	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C372	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C373	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C374	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C398	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C399	61453-130-121	C-CERAMIC.CHP;0805 5A 121JAT MA
CN301	63348-231-080	CONNECTOR-WAFER;52045-0810
CN302	A6010-0263	CONNECTOR WAFER;GC200-8P-LS WHT
CN303	A6010-0263	CONNECTOR WAFER;GC200-8P-LS WHT
IC301	B4012-0044	IC-LINEAR;BA7277S DIP Y/C PRE AMP
L301	62427-020-560	COIL PEAKING.AXIAL;LAL02TB 560J TAPG
L302	62427-020-151	COIL PEAKING.AXIAL;LAL02TB 151J TAPG
L303	62427-020-101	COIL PEAKING.AXIAL;LAL02TB 101J TAPG
L304	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L305	62427-812-471	COIL-PEAKING;EL0606RA 470uH-J
L306	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L307	62427-020-180	COIL PEAKING.AXIAL;LAL02TB 180J TAPG
L309	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L310	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L311	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L312	62427-812-331	COIL-PEAKING;EL0606RA 330uH-J
L399	62427-020-820	COIL PEAKING.AXIAL;LAL02TB 820J TAPG
Q301	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q302	62137-302-740	TRANSISTOR;KSC 945-Y TAPG

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
Q303	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q304	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q309	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q310	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q311	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q312	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q313	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q315	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q316	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q317	62137-701-020	TRANSISTOR;KSR 2001 TAPG
R301	61079-917-102	R-CHIP;RH C2012 CS 102-J
R302	61079-917-102	R-CHIP;RH C2012 CS 102-J
R303	61079-917-471	R-CHIP;RH C2012 CS 471-J
R304	61079-917-471	R-CHIP;RH C2012 CS 471-J
R305	61079-917-121	R-CHIP;RH C2012 CS 121-J
R306	61079-917-121	R-CHIP;RH C2012 CS 121-J
R307	61048-177-102	R-CARBON;RD 1/8 T 102-J
R308	61079-917-511	R-CHIP;RH C2012 CS 511-J
R309	61079-917-101	R-CHIP;RH C2012 CS 101-J
R310	61048-177-511	R-CARBON;RD 1/8 T 511-J
R311	61079-917-471	R-CHIP;RH C2012 CS 471-J
R312	61079-917-152	R-CHIP;RH C2012 CS 152-J
R313	61079-917-561	R-CHIP;RH C2012 CS 561-J
R314	61079-917-391	R-CHIP;RH C2012 CS 391-J
R315	61079-917-561	R-CHIP;RH C2012 CS 561-J
R318	61079-917-102	R-CHIP;RH C2012 CS 102-J
R320	61079-917-471	R-CHIP;RH C2012 CS 471-J
R321	61048-177-333	R-CARBON;RD 1/8 T 333-J
R322	61079-917-333	R-CHIP;RH C2012 CS 333-J
R323	61079-917-152	R-CHIP;RH C2012 CS 152-J
R324	61079-917-122	R-CHIP;RH C2012 CS 122-J
R325	61079-917-561	R-CHIP;RH C2012 CS 561-J
R326	61079-917-122	R-CHIP;RH C2012 CS 122-J
R327	61079-917-152	R-CHIP;RH C2012 CS 152-J
R328	61048-177-181	R-CARBON;RD 1/8 T 181-J
R329	61079-917-152	R-CHIP;RH C2012 CS 152-J
R330	61079-917-102	R-CHIP;RH C2012 CS 102-J
R335	61079-917-333	R-CHIP;RH C2012 CS 333-J
R344	61079-917-271	R-CHIP;RH C2012 CS 271-J
R345	61079-917-102	R-CHIP;RH C2012 CS 102-J
R346	61079-917-181	R-CHIP;RH C2012 CS 181-J
R347	61079-917-273	R-CHIP;RH C2012 CS 273-J
R348	61079-917-102	R-CHIP;RH C2012 CS 102-J
R349	61079-917-471	R-CHIP;RH C2012 CS 471-J
R350	61079-917-123	R-CHIP;RH C2012 CS 123-J
R351	61079-917-202	R-CHIP;RH C2012 CS 202-J
R352	61048-177-202	R-CARBON;RD 1/8 T 202-J
R354	61079-917-182	R-CHIP;RH C2012 CS 182-J
R355	61079-917-333	R-CHIP;RH C2012 CS 333-J
R356	61079-917-152	R-CHIP;RH C2012 CS 152-J
R358	61079-917-102	R-CHIP;RH C2012 CS 102-J
R360	61079-917-152	R-CHIP;RH C2012 CS 152-J
R361	61079-917-512	R-CHIP;RH C2012 CS 512-J
R398	61048-177-242	R-CARBON;RM 1/8 T 242-J
R399	61079-917-122	R-CHIP;RH C2012 CS 122-J

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603 69322-302-249 ASSY IF;VXK-326

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C401	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C402	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C403	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C404	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C405	61507-121-511	C-POLYESTER;CQ921M TAPG 50V 223-J
C406	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)
C407	61453-131-890	C-CERAMIC.CHP;08055A8R2DAT050M
C408	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)
C410	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C411	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C412	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z
C413	61453-130-392	C-CERAMIC.CHP;0805 5A 390JAT MA
C414	61454-139-479	C-CERAMIC.CHP;08055A 4R7 JAT MA
C415	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C416	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C417	61454-139-479	C-CERAMIC.CHP;08055A 4R7 JAT MA
C418	61453-131-270	C-CERAMIC.CHP;0805 5A 270JAT MA
C419	61453-131-220	C-CERAMIC.CHP;0805 5A 220JAT MA
C420	61453-130-392	C-CERAMIC.CHP;0805 5A 390JAT MA
C421	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C430	61453-131-103	C-CERAMIC.CHP;0805 5C 103KAT MA
C477	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C488	61453-130-392	C-CERAMIC.CHP;0805 5A 390JAT MA
C4C00	A1100-0044	C-CERAMIC.CHP;2012B 223K
C6101	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C6102	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C6103	B1102-0125	C-FILM;CQ982P 50V T 104J-40/85 ECQV1H104JZ3
C6104	61507-121-430	C-POLYESTER;CQ921M TAPG 50V 472-K
C6105	61407-101-510	C-CERAMIC.TEMP;CC45 SL TAPG 50V 470-J
C6106	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J
C6107	61507-121-530	C-POLYESTER;CQ921M TAPG 50V 333-K
C6108	61507-121-470	C-POLYESTER;CQ921M TAPG 50V 103-K
C6109	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
CN401	A6010-0413	CONNECTOR-WAFER;GC250-7P-LS-S1-MO GRY
FL401	B1245-0007	FILTER-SAW;SAF38.9MZW80Z PAL-B/G VF
FL403	64527-101-001	FILTER CERAMIC TRAP;TPS 5.5MB TAPG
FL404	64527-102-001	FILTER-CERAMIC TRAP;TPS 6.5MB TAPG
FL407	64527-103-001	FILTER CERAMIC;SFE 5.5MB TAPG
IC401	B4012-0046	IC-LINEAR;TDA9800 DIP NEG DEMOD
IC6101	62119-403-013	IC;SAA4700(VPS)
L401	62427-812-109	COIL-PEAKING;EL0606RA 1uH-K
L402	62427-812-139	COIL-PEAKING;EL0606RA 1.3uH-K
L403	62427-812-569	COIL-PEAKING;EL0606RA 5.6uH-K
L404	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L405	62427-812-270	COIL-PEAKING;EL0606RA 27uH-J
L406	62427-020-229	COIL PEAKING.AXIAL;LAL02TB 2R2J TAPG
L6101	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
Q401	62137-702-010	TRANSISTOR;KTC 3197-AT(TAPG)
Q402	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q6101	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
R128	61079-917-472	R-CHIP;RH C2012 CS 472-J
R401	61079-917-101	R-CHIP;RH C2012 CS 101-J
R402	61048-177-271	R-CARBON;RD 1/8 T 271-J
R403	61079-917-562	R-CHIP;RH C2012 CS 562-J
R404	61079-917-152	R-CHIP;RH C2012 CS 152-J
R405	61079-917-391	R-CHIP;RH C2012 CS 391-J
R406	61079-917-470	R-CHIP;RH C2012 CS 470-J
R411	61048-177-272	R-CARBON;RD 1/8 T 272-J
R412	61048-177-222	R-CARBON;RD 1/8 T 222-J
R415	61048-177-331	R-CARBON;RD 1/8 T 331-J
R416	61048-177-331	R-CARBON;RD 1/8 T 331-J
R417	61048-177-113	R-CARBON;RD 1/8 T 113-J
R418	61048-177-223	R-CARBON;RD 1/8 T 223-J
R419	61048-177-561	R-CARBON;RD 1/8 T 561-J
R420	61048-177-223	R-CARBON;RD 1/8 T 223-J
R421	61048-177-223	R-CARBON;RD 1/8 T 223-J
R422	61079-917-201	R-CHIP;RH C2012 CS 201-J
R423	61048-177-151	R-CARBON;RD 1/8 T 151-J
R424	61048-177-331	R-CARBON;RD 1/8 T 331-J
R426	61079-917-220	R-CHIP;RH C2012 CS 220-J
R427	61079-917-101	R-CHIP;RH C2012 CS 101-J
R6101	61048-177-103	R-CARBON;RD 1/8 T 103-J
R6102	61048-177-103	R-CARBON;RD 1/8 T 103-J
R6103	61048-177-823	R-CARBON;RD 1/8 T 823-J

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
R6104	61048-177-103	R-CARBON;RD 1/8 T 103-J
R6105	61048-177-103	R-CARBON;RD 1/8 T 103-J
R6106	61048-177-472	R-CARBON;RD 1/8 T 472-J
R6107	61048-177-362	R-CARBON;RD 1/8 T 362-J
R6108	61048-177-222	R-CARBON;RD 1/8 T 222-J
R6109	61048-177-222	R-CARBON;RD 1/8 T 222-J
R6110	61048-177-102	R-CARBON;RD 1/8 T 102-J
TL401	A1197-0004	TRANS-DET;9MM 0UH BLK 8PF 77.9MHZ M7T1 STICK
TL402	A1134-0017	COIL-TRAP;40.4MHZ 0.45UH 5PF 7MG Q60
TL403	A1134-0018	COIL-TRAP;32.4MHZ 0.45UH 5PF 7MG Q60
VR401	61247-102-223	VR-SEMI;EVN-DCA A03 BE4 TAPG 22KB

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604	69326-302-216	ASSY I/O;VXK-356/SEC

I/O PARTS

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C4301	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4302	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C4305	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C4306	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C4307	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C4308	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4311	61617-405-470	C-ELECTROLYTIC;CE04W TAPG 25V 47M(RSS 6.3X7)
C4312	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C4313	61617-405-470	C-ELECTROLYTIC;CE04W TAPG 25V 47M(RSS 6.3X7)
C4314	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C4315	61637-602-471	C-ELEC;CEAP 6.3V 470M SV(10X9)
C4316	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT MA
C4317	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C4318	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4319	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4320	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4321	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4322	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4323	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4324	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4325	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4326	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4327	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4328	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4329	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4330	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4331	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C4332	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C4333	61407-117-104	C-CERAMIC.AXIAL;CAX Y TAPG 16V 103N-T
C4340	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4341	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4342	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4343	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4344	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
C4345	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT MA
CN4301	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
CN4302	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
CN4303	63349-601-020	CONNECTOR-WAFER;5234-03A
D4301	62169-406-482	DIODE;1N4148 SAMSUNG
D4303	62169-901-077	DIODE.CHIP;MA110-(TX)
D4304	62169-901-077	DIODE.CHIP;MA110-(TX)
D4305	62169-901-077	DIODE.CHIP;MA110-(TX)
D4306	62169-901-077	DIODE.CHIP;MA110-(TX)
D4307	62169-901-077	DIODE.CHIP;MA110-(TX)
D4308	62169-901-077	DIODE.CHIP;MA110-(TX)
D4309	62169-901-077	DIODE.CHIP;MA110-(TX)
D4310	62169-901-077	DIODE.CHIP;MA110-(TX)
IC4301	A4012-0288	IC-LINEAR;KA8119 DIP
IC4302	62119-113-011	IC;KA78L09
J4310	61079-917-221	R-CHIP;RH C2012 CS 221-J
JC4301	A3040-0054	JACK-SCART;DSR-9102(S) 21P BLK
JC4302	A3040-0053	JACK-SCART;DSR-9102(S) 21P BLU
L4304	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
L4310	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4311	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4312	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4314	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4315	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4316	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L4317	66639-0003-00	FERRITE-BEAD INDUCTOR;FERRITE K150 BI3857
L4320	62427-020-010	COIL PEAKING.AXIAL;LAL02TB 1R0J TAPG
L4321	62427-020-010	COIL PEAKING.AXIAL;LAL02TB 1R0J TAPG
Q4301	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4302	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q4303	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q4304	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q4305	62137-701-020	TRANSISTOR;KSR 2001 TAPG
Q4306	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4307	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4308	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4309	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4310	62137-701-023	TRANSISTOR;KSR 2004 TAPG
Q4313	62137-701-013	TRANSISTOR;KSR 1004 TAPG
R4301	61079-917-563	R-CHIP;RH C2012 CS 563-J
R4303	61079-917-221	R-CHIP;RH C2012 CS 221-J
R4305	A1000-0412	R-CARBON;RD 1/4 T 750-J 75R
R4306	A1000-0412	R-CARBON;RD 1/4 T 750-J 75R
R4307	61048-277-561	R-CARBON;RD 1/4 T 561-J
R4308	61048-277-101	R-CARBON;RD 1/4 T 101-J
R4309	61079-917-224	R-CHIP;RH C2012 CS 224-J
R4310	61079-917-122	R-CHIP;RH C2012 CS 122-J
R4311	61048-277-271	R-CARBON;RD 1/4 T 271-J
R4312	61079-917-821	R-CHIP;RH C2012 CS 821-J
R4313	61079-917-152	R-CHIP;RH C2012 CS 152-J
R4314	61048-277-680	R-CARBON;RD 1/4 T 680-J
R4315	61048-277-681	R-CARBON;RD 1/4 T 681-J
R4316	61079-917-750	R-CHIP;RH C2012 CS 750-J
R4317	61079-917-224	R-CHIP;RH C2012 CS 224-J
R4318	61048-277-101	R-CARBON;RD 1/4 T 101-J
R4319	61048-277-271	R-CARBON;RD 1/4 T 271-J
R4320	61079-917-122	R-CHIP;RH C2012 CS 122-J
R4321	61048-277-103	R-CARBON;RD 1/4 T 103-J
R4322	61048-277-821	R-CARBON;RD 1/4 T 821-J
R4323	61079-917-122	R-CHIP;RH C2012 CS 122-J
R4324	61079-917-122	R-CHIP;RH C2012 CS 122-J
R4325	61079-917-562	R-CHIP;RH C2012 CS 562-J
R4326	61079-917-562	R-CHIP;RH C2012 CS 562-J
R4327	61079-917-562	R-CHIP;RH C2012 CS 562-J
R4328	61079-917-562	R-CHIP;RH C2012 CS 562-J
R4399	61048-177-471	R-CARBON;RD 1/8 T 471-J
TP4301	A6010-0411	CONNECTOR-WAFER;GC250-9P-TS-L3-MO GRY
W4325	61048-177-102	R-CARBON;RD 1/8 T 102-J
W4334	61048-177-102	R-CARBON;RD 1/8 T 102-J

AUDIO PARTS

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C501	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C502	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C503	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C504	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C505	61507-121-481	C-POLTESTER;CQ921M TAPG 50V 153-J
C506	61507-121-551	C-POLYESTER;CQ921M TAPG 50V 473-J
C507	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C508	61507-121-460	C-POLYESTER;CQ921M TAPG 50V 822-K
C509	61507-121-451	C-POLYESTER;CQ921M TAPG 50V 682-J
C510	61507-121-451	C-POLYESTER;CQ921M TAPG 50V 682-J

LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION
C511	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C512	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C513	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)
C514	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
C515	61637-204-330	C-ELEC;CEAP 16V 33M SA(5X11)
C516	61637-208-478	C-ELEC;CEAP 50V 0.47M SA(5X11)
C518	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C519	61507-121-371	C-POLYESTER;CQ921M TAPG 50V 182-J
C520	61507-121-511	C-POLYESTER;CQ921M TAPG 50V 223-J
C521	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
C522	61507-121-371	C-POLYESTER;CQ921M TAPG 50V 182-J
C524	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
C525	B1102-0126	C-FILM;CQ982P 100V T 682J-40/85 ECQB1682JF3
C526	61507-121-350	C-POLTESTER;CQ921M TAPG 50V 122-K
C527	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT MA
C528	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C529	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
CN501	63054-307-160	FLAT WIRE;UL2878 #26-07P 160
CN503	A6010-0263	CONNECTOR WAFER;GC200-8P-LS WHT
IC501	62119-103-685	IC;LA7295
L502	62427-813-153	COIL-PEAKING;EL0607RA 15mH-J
L503	62427-813-153	COIL-PEAKING;EL0607RA 15mH-J
L504	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
OSC501	62429-014-109	COIL BIAS OSC;B01 70KHZB(TOKO)VX1850
Q501	62137-702-020	TRANSISTOR;KSC 1008-Y TAPG
R501	61079-917-103	R-CHIP;RH C2012 CS 103-J
R502	61079-917-203	R-CHIP;RH C2012 CS 203-J
R503	61079-917-391	R-CHIP;RH C2012 CS 391-J
R504	61079-917-392	R-CHIP;RH C2012 CS 392-J
R505	61079-917-331	R-CHIP;RH C2012 CS 331-J
R506	61079-917-473	R-CHIP;RH C2012 CS 473-J
R507	61079-917-122	R-CHIP;RH C2012 CS 122-J
R508	61079-917-223	R-CHIP;RH C2012 CS 223-J
R509	61079-917-622	R-CHIP;RH C2012 CS 622-J
R510	61079-917-475	R-CHIP;RH C2012 CS 475-J
R511	61079-917-393	R-CHIP;RH C2012 CS 393-J
R512	61079-917-392	R-CHIP;RH C2012 CS 392-J
R513	61079-917-302	R-CHIP;RH C2012 CS 302-J
R514	61079-917-562	R-CHIP;RH C2012 CS 562-J
R516	61079-917-334	R-CHIP;RH C2012 CS 334-J
R517	61079-917-101	R-CHIP;RH C2012 CS 101-J
R518	61079-917-561	R-CHIP;RH C2012 CS 561-J
R519	61079-917-152	R-CHIP;RH C2012 CS 152-J
R520	61079-917-473	R-CHIP;RH C2012 CS 473-J
R521	61079-917-478	R-CHIP;RH C2012 CS 4R7-J
R522	61079-917-473	R-CHIP;RH C2012 CS 473-J
R525	61079-917-122	R-CHIP;RH C2012 CS 122-J
R528	61079-917-332	R-CHIP;RH C2012 CS 332-J
R5315	61079-917-822	R-CHIP;RH C2012 CS 822-J
VR501	B1054-0199	VR-SEMI;EVN-DCAA03-B1 47KB CARBON TAPG

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LOCA.NO	PART-NUMBER	DESCRIPTION / SPECIFICATION

6. MECHANICAL EXPLODED VIEW/ PARTS LIST

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6-1. Instrument Assembly - - - - - - - - - - - - - - - - - 6-2

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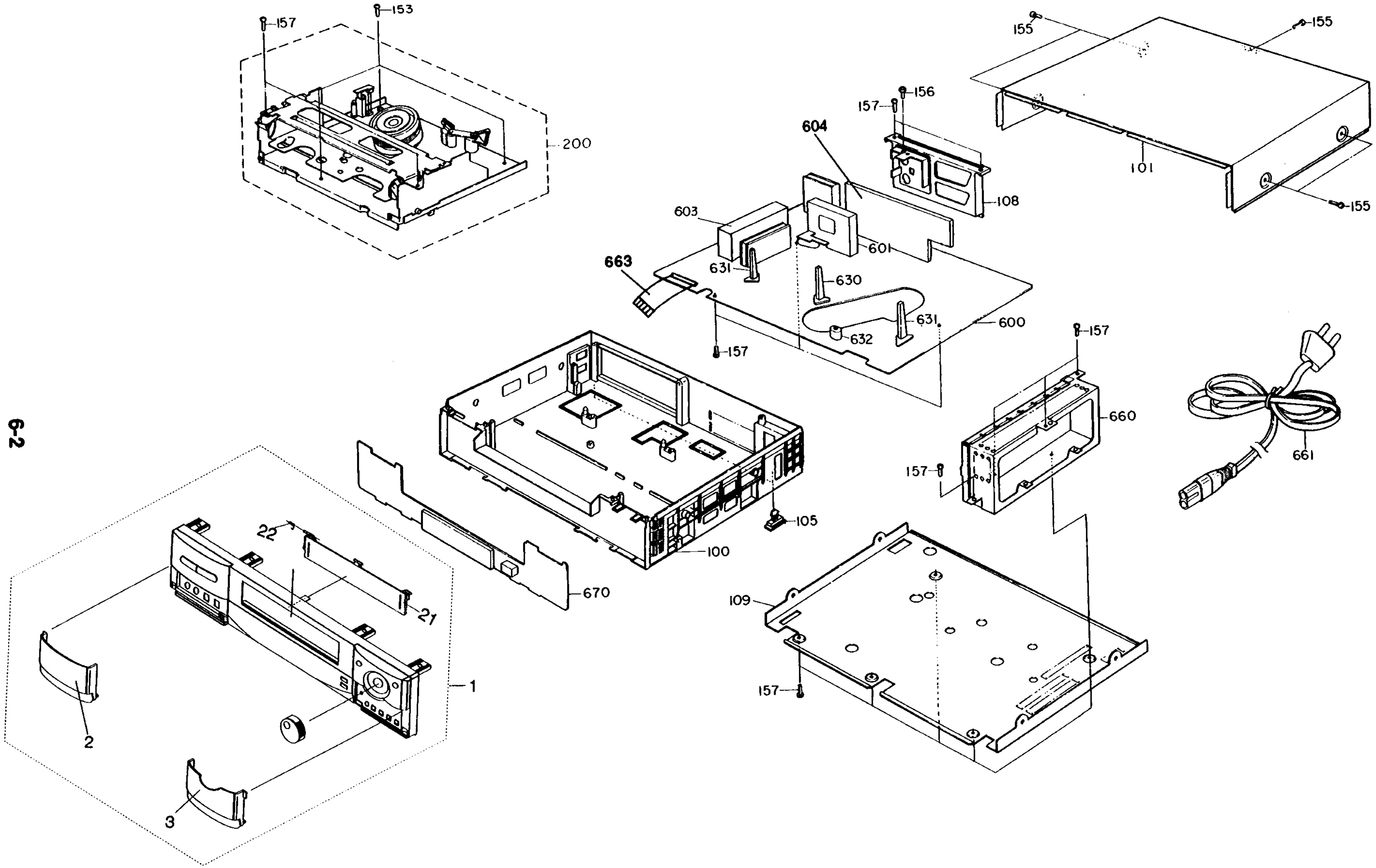
6-3. Mechanical Parts (2) ; Bottom View - - - - - - 6-6

6-4. Housing Assembly - - - - - - - - - - - - - - - - - - - 6-8

6-1. Instrument Assembly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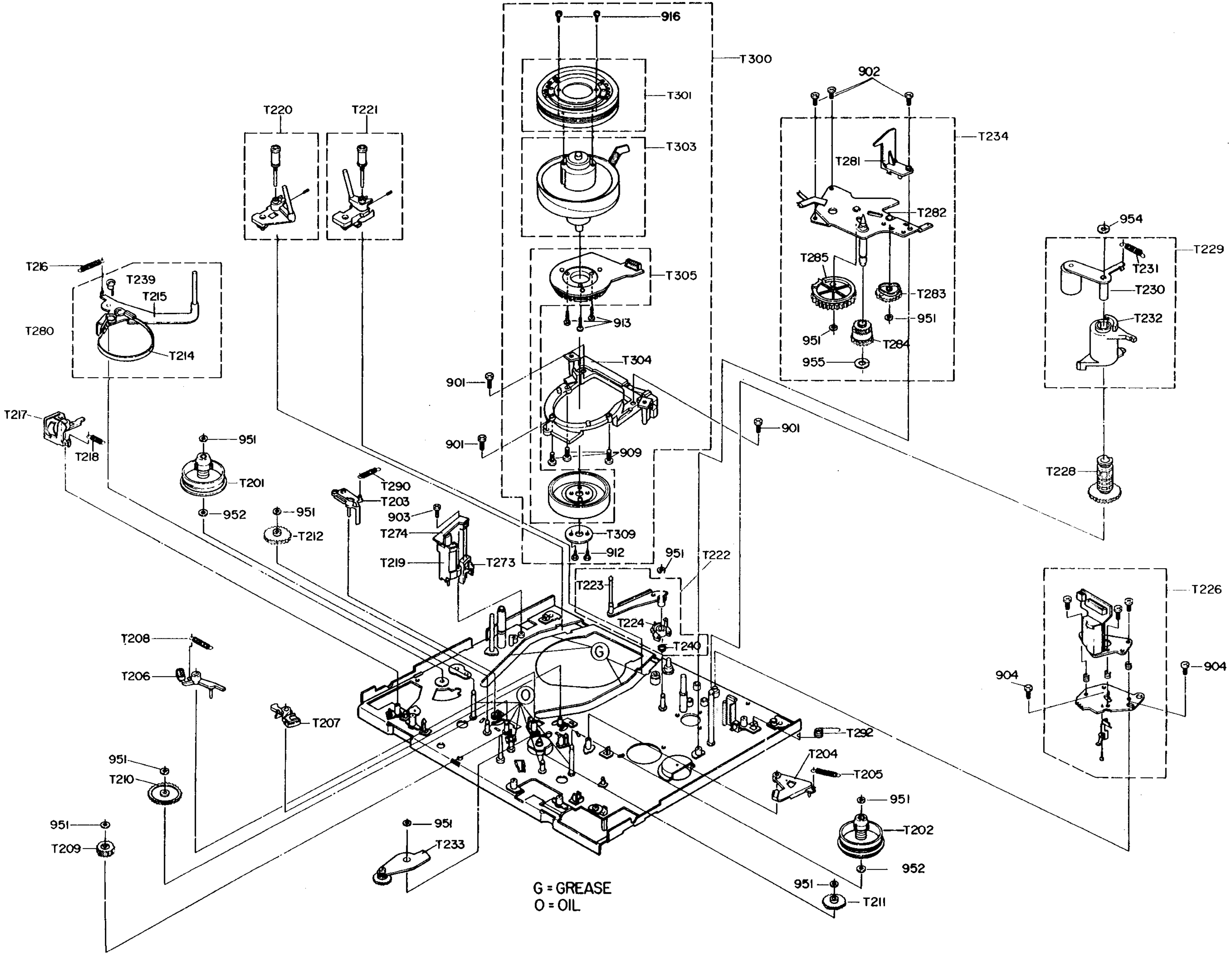
LOCA NO	PART-NUMBER	DESCRIPTION/SPECIFICATION
1	69000-302-433	ASS'Y-PANEL FRONT;ABS94HB VXK-356
2	64043-0109-04	DOOR-FRONT(L);ABS94HB T2.5 GRY VXK-356
3	64043-0110-05	DOOR-FRONT(R);ABS94HB T2.5 GRY VXK-356
21	64043-0111-02	DOOR-CASSETTE;ABS94HB T2.5 GRY VXK-356
22	62724-0090-00	SPRING;SUS304 (GE/RCA)
100	V2210-0058-00	FRAME;HIPS94HB VIK-306(W-2)
101	V2002-0020-00	TOP-CABINET;FE+PCV T0.75 GRY VIK-306(W-2)
105	66074-601-410	LEG;VT-1260 TPE(BLK)7705
108	V6002-0055-00	CONNECTOR-BOARD;HIPS94HB VFK-306 T2
109	V3312-0097-00	BOTTOM-COVER;SECC T0.5 VIK-306(W-2)
153	67158-240-121	SCREW BH;2-4X12 FE FZY
155	67158-240-163	SCREW-TAP BH;2-4X16 FE FZB
156	60504-0046-00	SCREW-TAP TITE;PWH + TC M3 L6 SWRCH18A YEL ZPC3
157	60504-0040-00	SCREW-TAP TITE;BH + TB 3 L12 SWRCH18A ZPC3 YEL
200	DX3WB-R	FULL DECK ASSY;WINNER 2
600	69357-302-418	ASS'Y MAIN;VXK-356
601	69312-302-253	ASS'Y PRE-AMP;VXK-356
603	69322-302-249	ASS'Y IF;VXK-356
604	69326-302-216	ASS'Y I/O;VXK-356/SEC
630	63322-0174-00	HOLDER-LED;POM BLK
631	63322-0173-00	HOLDER-TR;POM BLK
632	63323-0060-00	HOLDER-PHOTO INTER;POM M90-44 H14.1 WHT(WINNER)
660	69097-235-800	ASS'Y SMPS;PAL 230V INLET W-2 NEW
661	A6006-0204	POWER-CORD;KJP-140 KJ-0201 1.98MT BLK KKJ-201A VXK-356/SEG
	A6006-0135	POWER-CORD;CP2 KLCE-2F 1.8MT VXK-356/AMF/SEC/NSI/SEP/SEI
663	63054-333-130	BAN-CARD;BNCD P=1.25-K-33P 130MM
670	69371-302-325	ASS'Y F/TIMER;VXK-356/SEG
	69371-302-323	ASS'Y F/TIMER;VXK-356/AMF/SEC/NSI/SEP/SEI

6-2. Mechanical Parts (1) ; Top View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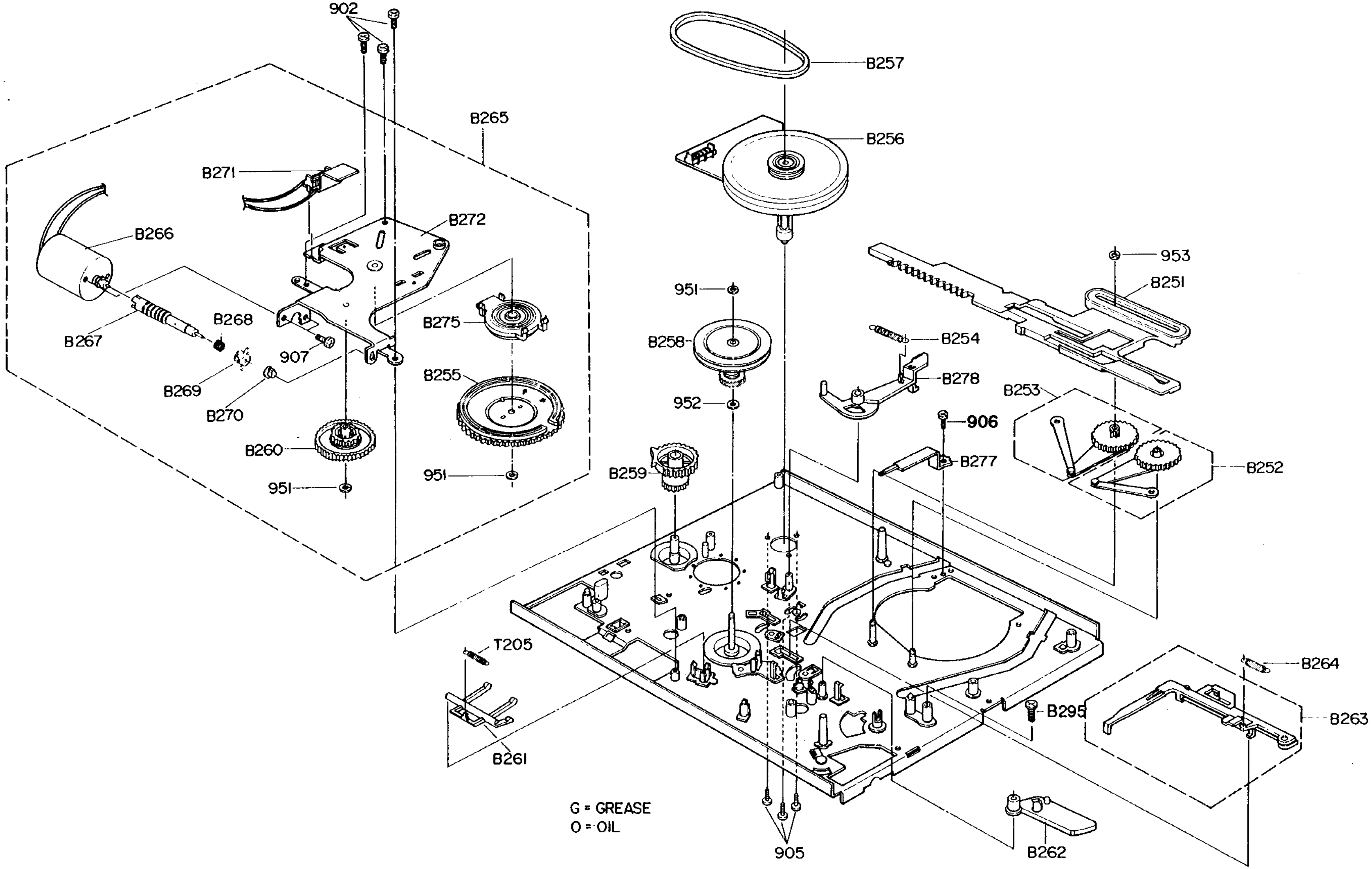
901
951
T201
952
T290
T203
951
T212
903
T274
T219
T273
951
T222
T223
T224
T240
G
O
T226
904
904
T208
T206
T207
T292
T204
T205
951
T202
952
951
T211
951
T210
951
T209
951
T233

G = GREASE
O = OIL

LOCA NO	PART-NUMBER	DESCRIPTION SPECIFICATION
901	60509-0064-00	SCREW-MACHINE;BH FP M3 L8 FE FZY WS
902	60509-0063-00	SCREW-TAPPING;BH B M3 L8 FE FZY
903	60504-0032-00	SCREW-PH;PH +3 2.6 L10 SUM ZN YEL
904	60509-0059-00	SCREW-MACHINE;BH FP M2.6 L6 FE FZY WSP
909	60504-0081-00	SCREW-MACHINE;BH + FP 2.6 L9 SWRCH10A
912	67094-604-710	SCREW-DAMPER;M2.0X7.0 SWCM 10(MFZN2-C)
913	67008-123-101	SCREW-PH;+M2.3X10 FE FZY
916	67004-126-086	SCREW-BH;+M2.6X8 WSZN/70391398
951	67334-600-310	WASHER SLIT;PI2.5XPI5XT0.5
952	67304-103-410	WASHER-PLAIN;3.2X6X0.5 POLYSLIDER
954	60534-0024-00	WASHER-SLIT;ID3 OD8 T0.5 POLYSLIDE
955	60534-0019-00	WASHER-SLIT;A ID5 OD9 T0.5 POLYSLIDE
T201	61574-0010-01	REEL DISK(L) ASSY;X3RL03032A
T202	61574-0012-01	REEL DISK(R) ASSY;X3RL03031A
T203	66603-620-110	BRAKE SUB L;PBT#3300 NAT
T204	62614-0004-01	BRAKE SUB(R) ASSY;X3RL02021A
T205	66674-652-610	S/P BRAKE SUB
T206	62614-0003-01	BRAKE MAIN(L) ASSY;X3RL02022A
T207	62614-0002-01	BRAKE MAIN(R) ASSY;X3RL02021A
T208	66674-652-510	S/P BRAKE MAIN;SUS304 WPB
T209	61474-0061-01	GEAR RELAY S1;PEBAX #6333
T210	61474-0062-01	GEAR RELAY S2;POM(M90-44) NAT
T211	61474-0060-01	GEAR RELAY T;PEBAX #6333
T212	61474-0063-01	GEAR RELAY S3;PEBAX #6333
T214	62024-0005-01	BAND TENSION ASSY;X3RL04051A
T215	69000-290-579	ARM TENSION ASSY;SECC+SUS
T216	66674-652-910	SPRING TENSION;SUS304
T217	61533-0064-00	LEVER-REC S/W;POM M90-44 H12.1 NAT
T218	62724-0075-00	SPRING-RECORD S/W;ES SUS304
T219	64079-700-454	HEAD MAGNETIC F/E;VTR-1X2ERS11-089
T220	69000-291-035	ASSY-P.B & G.R(L);X-3
T221	69000-291-036	ASSY-P.B & G.R(R);X-3
T222	69000-291-004	FULL REVIEW ARM ASSY;X-3
T223	61544-0032-00	ARM-REVIEW ASSY;SECC+SUS303C+C3604BD
T224	61473-0059-01	GEAR REVIEW;POM(M90-44) NAT
T226	69000-291-032	A/C HEAD ASSY;X-3(WINNER)
T228	61472-0054-01	GEAR ESCALATOR;POM(M90-44)
T229	61523-0021-01	PINCH ROLLER UNIT;X-3A
T230	61543-0040-01	ARM PINCH ASSY;SECC 1.6+SUS+C3604BD
T231	62724-0062-01	S/P PINCH ROLLER;SUS304-WPB
T232	63323-0043-01	HOLDER ESCALATOR;PC 30%
T233	61604-0003-01	IDLER SUB ASSY;X3RL 06061A
T234	67179-0069-03	UNIT-DRIVE PINCH;X-3
T239	66654-617-810	CAM TENSION;POM(M90-44) WHT
T240	62724-0117-00	SPRING-REVIEW;CS STS304/WPB PI0.45 D5 L5.5
T273	B6010-0248	CONNECTOR-WAFER;TMC-E02P-D1 BLK
T274	66029-0296-00	P.C.B-F/E HEAD;1V0 T1.6 W29 L180 VT-350R
T280	69000-290-560	ASSY FULL ARM TENSION;SECC+SUS+POM+FELT
T281	63073-0015-00	SUPPORTER-LID OPENNER;POM(M90-44) T2 X-3
T282	63012-0098-00	BRACKET-PINCH DRIVE;SECC T1.0
T283	61473-0058-01	GEAR CAM PINCH;POM(OL-10)
T284	61473-0056-01	GEAR RELAY PINCH;PBT #2002
T285	61473-0057-01	GEAR CAM DRIVE;POM(OL-10)
T290	62724-0101-00	SPRING-BRAK SUB L;SUS304 PI0.3 D3 L20
T292	62724-0082-01	SPRING-ESCALATOR;PS SUS304-WPB PI1 D5 L30
T300	69020-124-018	CYLINDER ASSY
T301	69000-400-040	UPPER CYLINDER ASSY;CX3-D4P
T303	69000-291-084	LOWER CYLINDER ASSY;CX4-D4P
T304	62201-0051-00	BASE-CYLINDER;ADC12 WHT X-3W
T305	66823-0043-00	MOTOR-CYLINDER;DMVDMT04C
T309	66124-601-710	RETAINER-RUBBER ASSY;SECC+SILICONE

6-3. Mechanical Parts (2) ; Bottom View

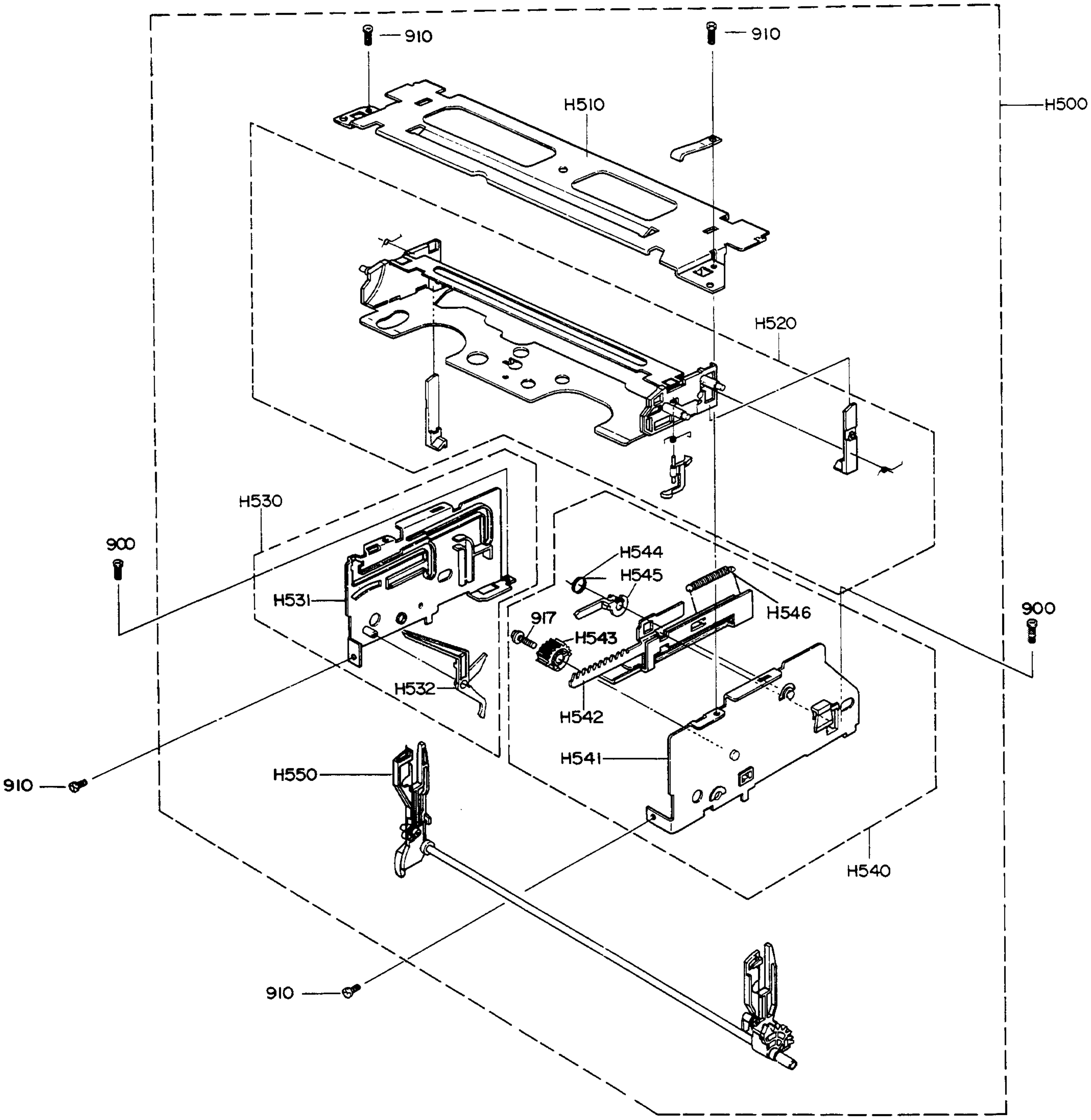


902
B257
B265
B256
B271
B266
B272
953
B251
951
B275
B268
B267
B258
B254
907
B255
B278
B269
B270
B253
952
906
B260
B259
B277
B252
951
951
T205
B264
B295
B263
B261
B262
905

G = GREASE
O = OIL

LOCA NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
902	60509-0063-00	SCREW-TAPPING;BH B M3 L8 FE FZY
905	60504-0044-00	SCREW-TAPPING;BH +3 M2.6 L7.5 SWRCH18A ZPC3 YEL
906	60509-0058-00	SCREW-MACHINE;BH FP M3 L4 SWRCH10A YEL ROBOT
907	67004-100-710	SCREW-PH;+3X4 FEFZY
951	67334-600-310	WASHER SLIT;PI2.5XPI5XT0.5
952	67304-103-410	WASHER-PLAIN;3.2X6X0.5 POLYSLIDER
953	67334-601-830	SLIT WASHER;2.5X9X0.5(RED)
B251	66602-603-510	SLIDE MAIN;PBT 6300T(NAT)
B252	61473-0047-01	GEAR LOADING
B253	61473-0045-01	GEAR LODAING
B254	66674-652-810	S/P BRAKE CAPSTAN;SUS304 WPB
B255	61472-0055-02	GEAR MASTER;POM(M90-44)
B256	66829-0024-05	MOTOR-D/D CAPSTAN;F2QKB59 12V FGZ
B257	65274-603-910	BELT CAPSTAN;CY-65
B258	61453-0001-01	CLUTCH ASSY;X3RL10101A
B259	61473-0051-02	GEAR-E/J DRIVE;KOPER(KN333G30) BLK
B260	61473-0053-02	GEAR-WORM WHEEL;NYLON12
B261	66603-619-510	LEVER SHIFT;POM(M90-44)
B262	61534-0040-01	LEVER TENSION CONTROL;POM(M90-44) NAT
B263	61643-0016-01	SLIDE I.B ASSY;X3RL02021A
B264	62724-0129-00	SPRING-RELEASE BRAKE;SUS304 WPB
B265	67179-0068-03	UNIT-L/D;X-3W
B266	66824-0013-01	L/D MOTOR ASSY;RF370C+POM
B267	69000-291-056	WORM LOADING ASSY;POM+SUS
B268	62724-0061-01	S/P CLUTCH;SUS304-WPB
B269	61504-0006-01	PULLEY RELEASE;POM(M90-44)
B270	63324-0042-01	HOLDER-SHAFT;POM(M90-44)
B271	69000-291-054	CON. WAFER ASSY;WAFER+FPC+LEAD WIRE
B272	63011-0097-00	BRACKET-LOADING;SECC E20/20(T1.2)
B275	66203-0007-02	SWITCH-PROGRAM;SMRS30A(K-ALPS)
B277	63374-0002-00	BRUSH-HEAD ASSY;SECC+CARBON
B278	62614-0005-01	BRAKE DD CAP ASSY;X3RL02021A
B295	60504-0070-00	SCREW-TAP TITE;PWH + B M3 L8 SWCH1018 YEL
T205	66674-652-610	S/P BRAKE SUB

6-4. Housing Assembly


910
910
H510
H500
H520
H530
900
H544
H545
H531
H546
900
917
H543
H532
H542
H541
910
H550
H540
910

LOCA.NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
900	60509-0061-00	SCREW-MACHINE;BH FP M3 L6 FE FZY
910	60509-0062-00	SCREW-TAP TITE;BH + TS M3 L6 FE FZY
917	67154-101-420	SCREW-TAP PWH;2S-3X8 FE FZY
H500	62052-0004-02	HOUSING-F/L ASSY;X3FL29310C
H510	62202-0029-00	CHASSIS-UPPER;SECC E20/20 T1.2
H520	63322-0044-00	HOLDER-CASS ASSY;X3FL11120A
H530	62203-0027-00	CHASSIS-SIDE
H531	62203-0028-00	CHASSIS-SIDE
H532	61533-0043-00	LEVER-DOOR;LUCEL-N109-LD/KEPITAL F20-03
H540	62203-0025-01	CHASSIS-SIDE
H541	62203-0026-01	CHASSIS-SIDE
H542	61474-0080-01	GEAR-RACK ASS'Y;SECC E20/20 T1.6 SWPB
H543	61473-0064-01	GEAR-JOINT;LUCEL MR-320/KT-20
H544	62724-0067-01	SPRING-LEVER DAMPER;TS STS304 WPB PI0.85 L12
H545	61533-0042-01	LEVER-DAMPER;LUCEL N109-LD/KEPITAL F20-03 BLK
H546	62724-0112-00	SPRING-RACK GEAR;ES SWPB PI0.5 D3.5
H550	61043-0025-00	SHAFT ARM ASSY;X3FL05050A

7. BLOCK DIAGRAMS

Page

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7-2. Cylinder Phase Control -------------- 7-3

7-3. Cylinder Speed Control -------------- 7-3

7-4. Capstan Phase Control -------------- 7-4

7-5. Capstan Speed Control -------------- 7-4

7-6. Audio Playback Process ------------- 7-5

7-7. Audio Record Process -------------- 7-5

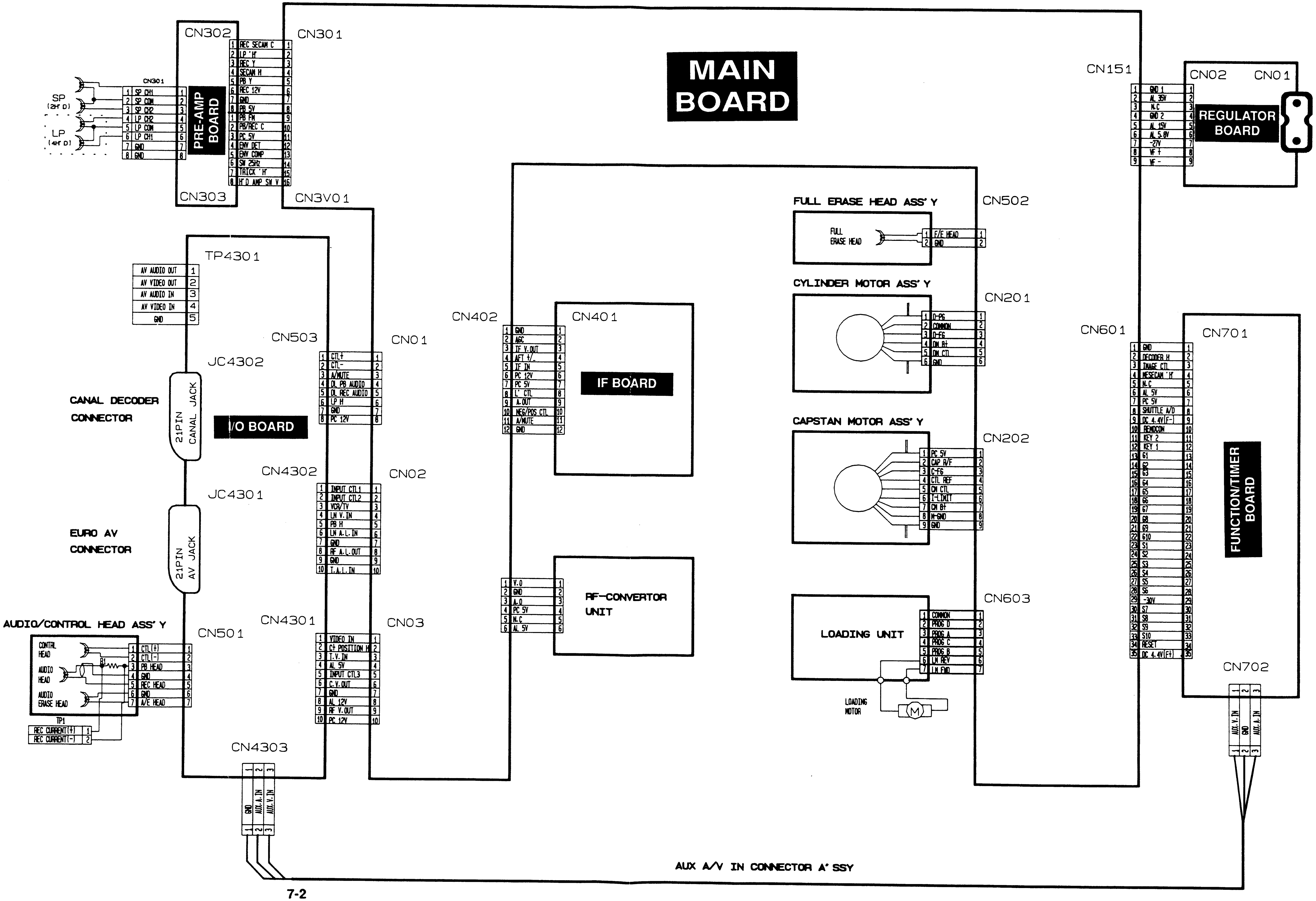
7-8. Luminance Playback Process --------- 7-6

7-9. Luminance Record Process ---------- 7-7

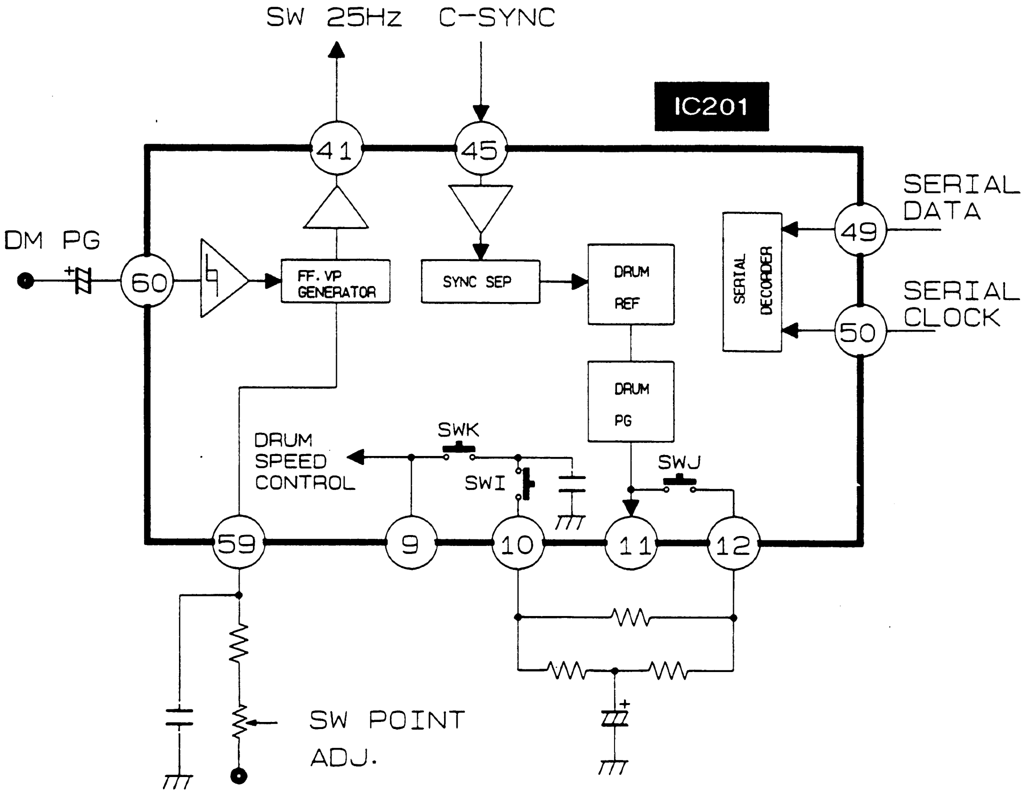
7-10. Chrominance Playback Process ------- 7-8

7-11. Chrominance Record Process --------- 7-9

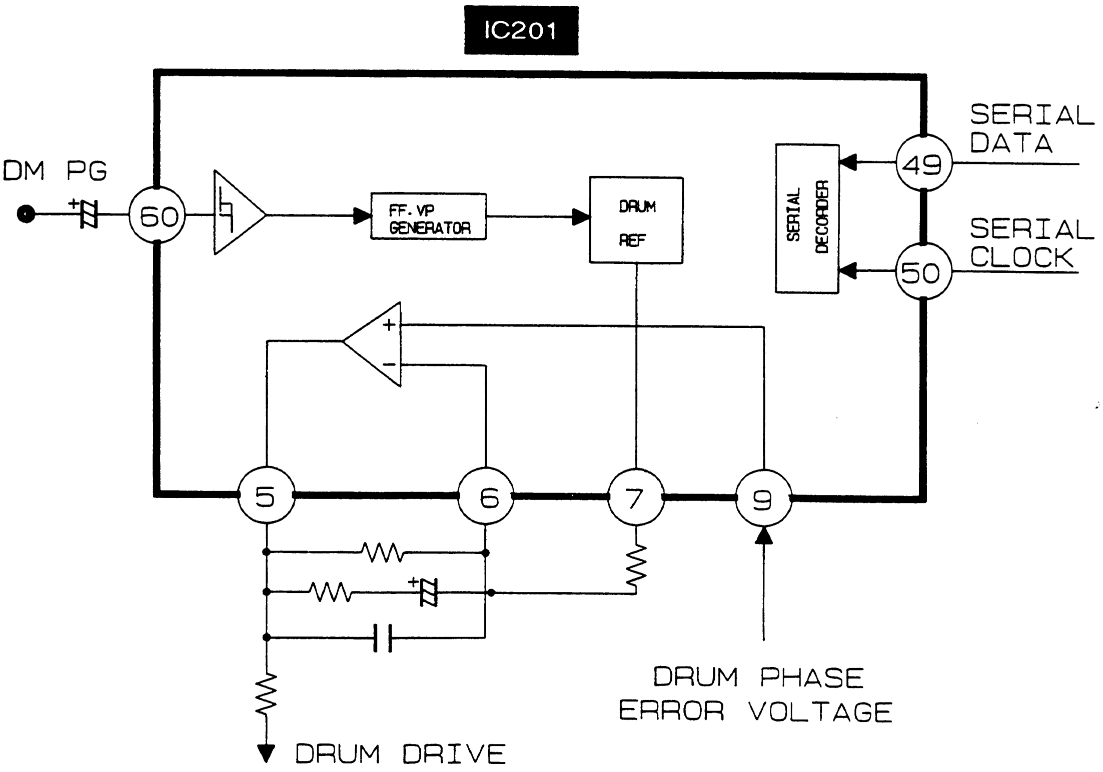
7-1. Total Wiring Diagram


MAIN BOARD
PRE-AMP BOARD
CN302
CN303
CN301
CN3V01
SP (2H' D)
LP (4H' D)
CN301
1 SP CH1
2 SP COM
3 SP CH2
4 LP CH2
5 LP COM
6 LP CH1
7 GND
8 GND
1 REC SECAM C
2 LP 'H'
3 REC Y
4 SECAM H
5 PB Y
6 REC 12V
7 GND
8 PB 5V
9 PB FM
10 PB/REC C
11 PC 5V
12 ENV DET
13 ENV COMP
14 SW 25Hz
15 TRICK 'H'
16 H'D AMP SW V
I/O BOARD
TP4301
1 AV AUDIO OUT
2 AV VIDEO OUT
3 AV AUDIO IN
4 AV VIDEO IN
5 GND
CANAL DECODER CONNECTOR
JC4302
21PIN CANAL JACK
EURO AV CONNECTOR
JC4301
21PIN AV JACK
CN503
CN01
1 CTL+
2 CTL-
3 A/MUTE
4 DL PB AUDIO
5 DL REC AUDIO
6 LP H
7 GND
8 PC 12V
CN4302
CN02
1 INPUT CTL1
2 INPUT CTL2
3 VCR/TV
4 LN V.IN
5 PB H
6 LN A.L.IN
7 GND
8 RF A.L.OUT
9 GND
10 T.A.L.IN
CN4301
CN03
1 VIDEO IN
2 C+ POSITION H
3 T.V.IN
4 AL 5V
5 INPUT CTL3
6 C.V.OUT
7 GND
8 AL 12V
9 RF V.OUT
10 PC 12V
AUDIO/CONTROL HEAD ASS' Y
CONTRL HEAD
AUDIO HEAD
AUDIO ERASE HEAD
R1
CN501
1 CTL(+)
2 CTL(-)
3 PB HEAD
4 GND
5 REC HEAD
6 GND
7 A/E HEAD
TP1
1 REC CURRENT(+)
2 REC CURRENT(-)
CN4303
1 GND
2 AUX.A.IN
3 AUX.V.IN
CN402
CN401
IF BOARD
1 GND
2 AGC
3 IF V.OUT
4 AFT +/-
5 IF IN
6 PC 12V
7 PC 5V
8 L' CTL
9 A.OUT
10 NEG/POS CTL
11 A/MUTE
12 GND
RF-CONVERTOR UNIT
1 V.O
2 GND
3 A.O
4 PC 5V
5 N.C
6 AL 5V
FULL ERASE HEAD ASS' Y
FULL ERASE HEAD
CN502
1 F/E HEAD
2 GND
CYLINDER MOTOR ASS' Y
CN201
1 D-PG
2 COMMON
3 D-FG
4 DM B+
5 DM CTL
6 GND
CAPSTAN MOTOR ASS' Y
CN202
1 PC 5V
2 CAP R/F
3 C-FG
4 CTL REF
5 CM CTL
6 I-LIMIT
7 CM B+
8 M-GND
9 GND
LOADING UNIT
CN603
1 COMMON
2 PROG D
3 PROG A
4 PROG C
5 PROG B
6 LM REV
7 LM FWD
LOADING MOTOR
M
CN151
CN02
CN01
REGULATOR BOARD
1 GND 1
2 AL 35V
3 N.C
4 GND 2
5 AL 15V
6 AL 5.8V
7 -27V
8 VF +
9 VF -
CN601
CN701
FUNCTION/TIMER BOARD
1 GND
2 DECODER H
3 IMAGE CTL
4 MESECAM 'H'
5 N.C
6 AL 5V
7 PC 5V
8 SHUTTLE A/D
9 DC 4.4V(F-)
10 REMOCON
11 KEY 2
12 KEY 1
13 G1
14 G2
15 G3
16 G4
17 G5
18 G6
19 G7
20 G8
21 G9
22 G10
23 S1
24 S2
25 S3
26 S4
27 S5
28 S6
29 -30V
30 S7
31 S8
32 S9
33 S10
34 RESET
35 DC 4.4V(F+)
CN702
1 AUX.V.IN
2 GND
3 AUX.A.IN
AUX A/V IN CONNECTOR A' SSY

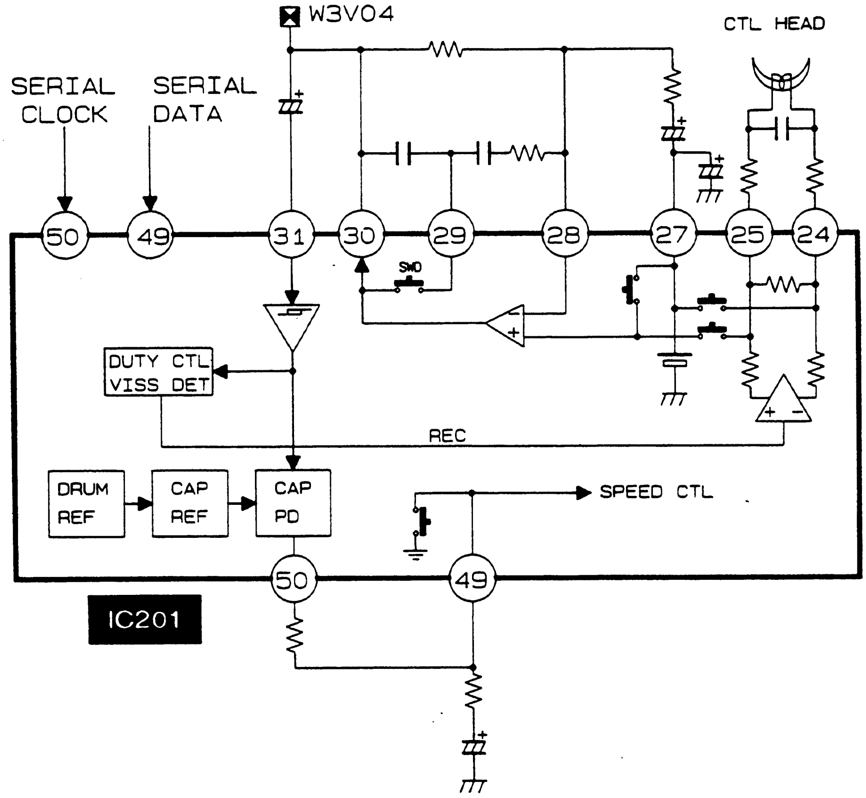
7-2. Cylinder Phase Control


SW 25Hz
C-SYNC
IC201
41
45
SERIAL DATA
49
DM PG
60
FF. VP GENERATOR
SYNC SEP
DRUM REF
SERIAL DECORDER
SERIAL CLOCK
50
DRUM PG
DRUM SPEED CONTROL
SWK
SWI
SWJ
59
9
10
11
12
SW POINT ADJ.

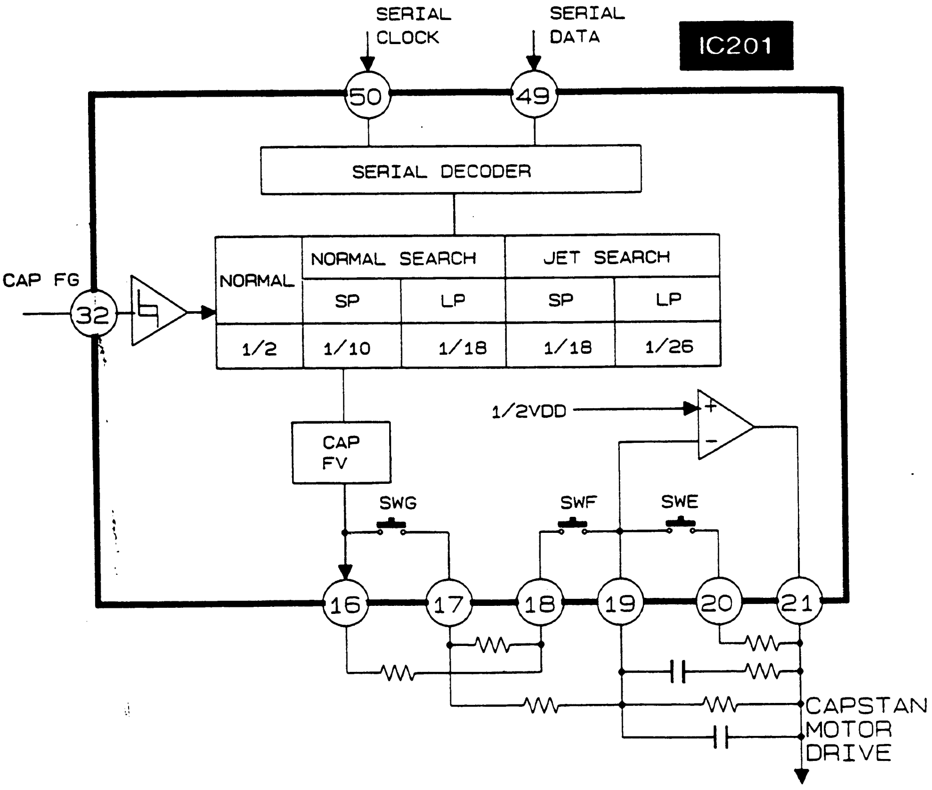
7-3. Cylinder Speed Control


IC201
SERIAL DATA
49
DM PG
60
FF. VP GENERATOR
DRUM REF
SERIAL DECORDER
SERIAL CLOCK
50
+
-
5
6
7
9
DRUM PHASE ERROR VOLTAGE
DRUM DRIVE

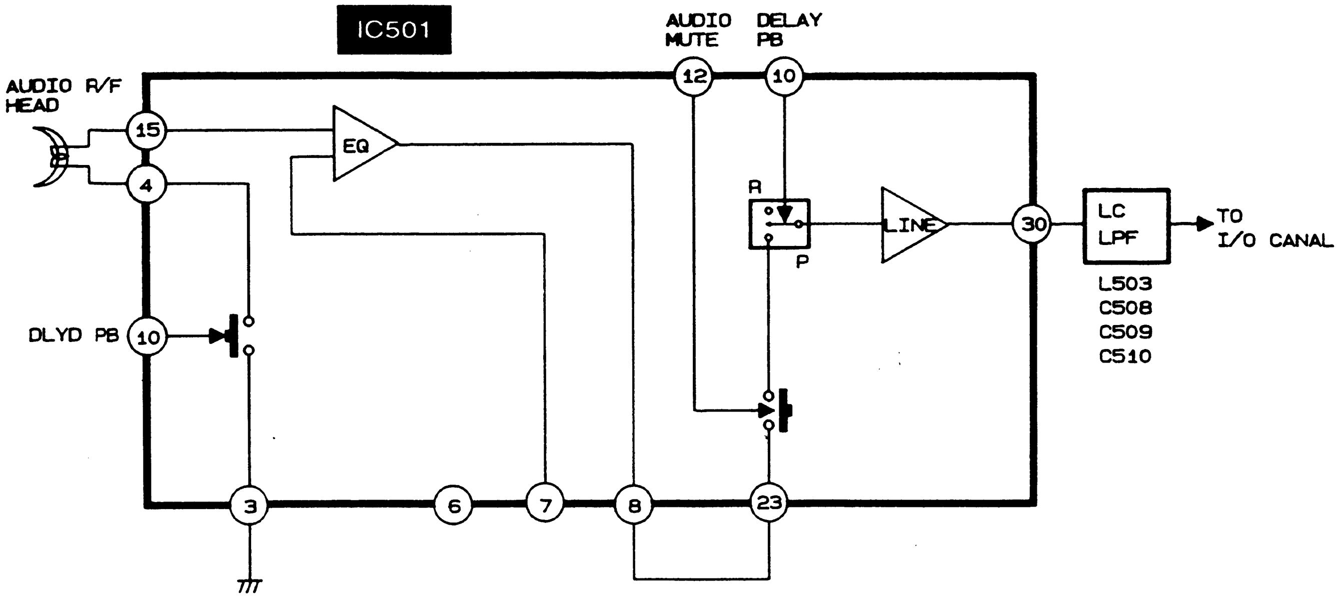
7-4. Capstan Phase Control


W3V04
CTL HEAD
SERIAL CLOCK
SERIAL DATA
50
49
31
30
29
28
27
25
24
SWD
DUTY CTL
VISS DET
REC
DRUM REF
CAP REF
CAP PD
SPEED CTL
50
49
IC201

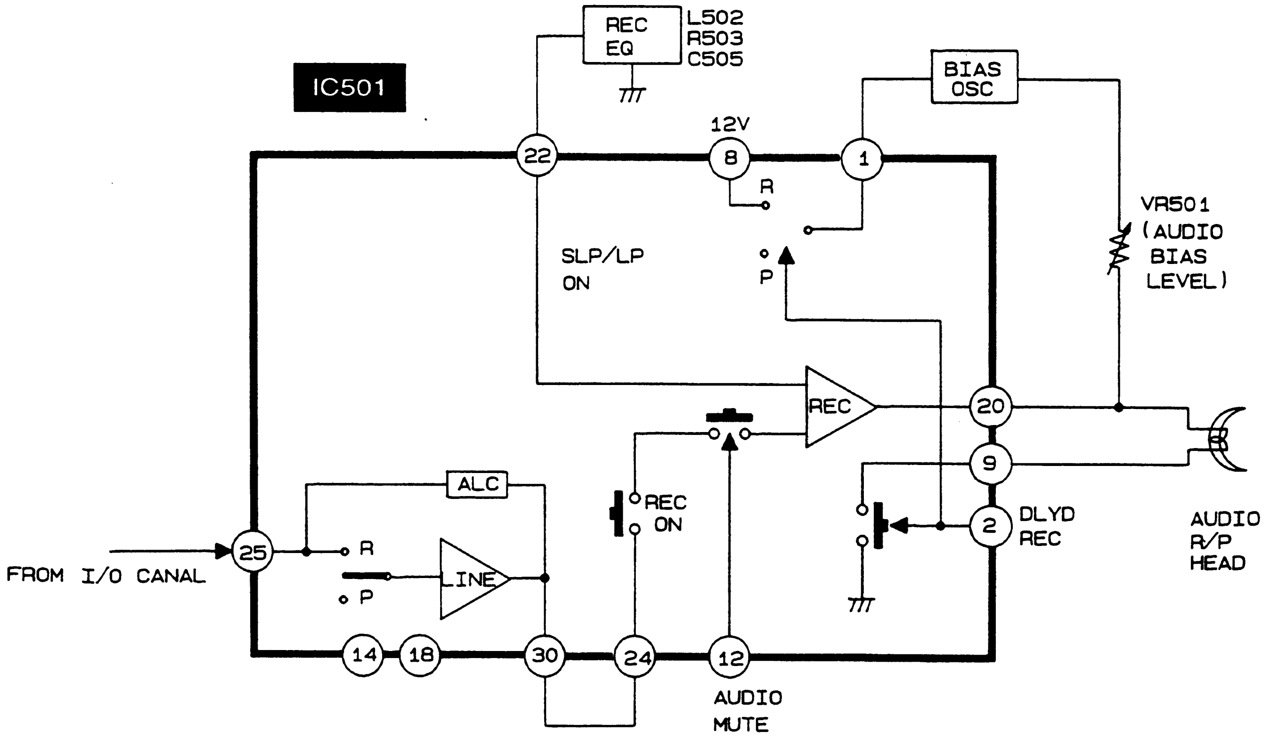
7-5. Capstan Speed Control


SERIAL CLOCK
SERIAL DATA
IC201
50
49
SERIAL DECODER
CAP FG
32
NORMAL
NORMAL SEARCH
JET SEARCH
SP
LP
SP
LP
1/2
1/10
1/18
1/18
1/26
1/2VDD
CAP FV
SWG
SWF
SWE
16
17
18
19
20
21
CAPSTAN MOTOR DRIVE

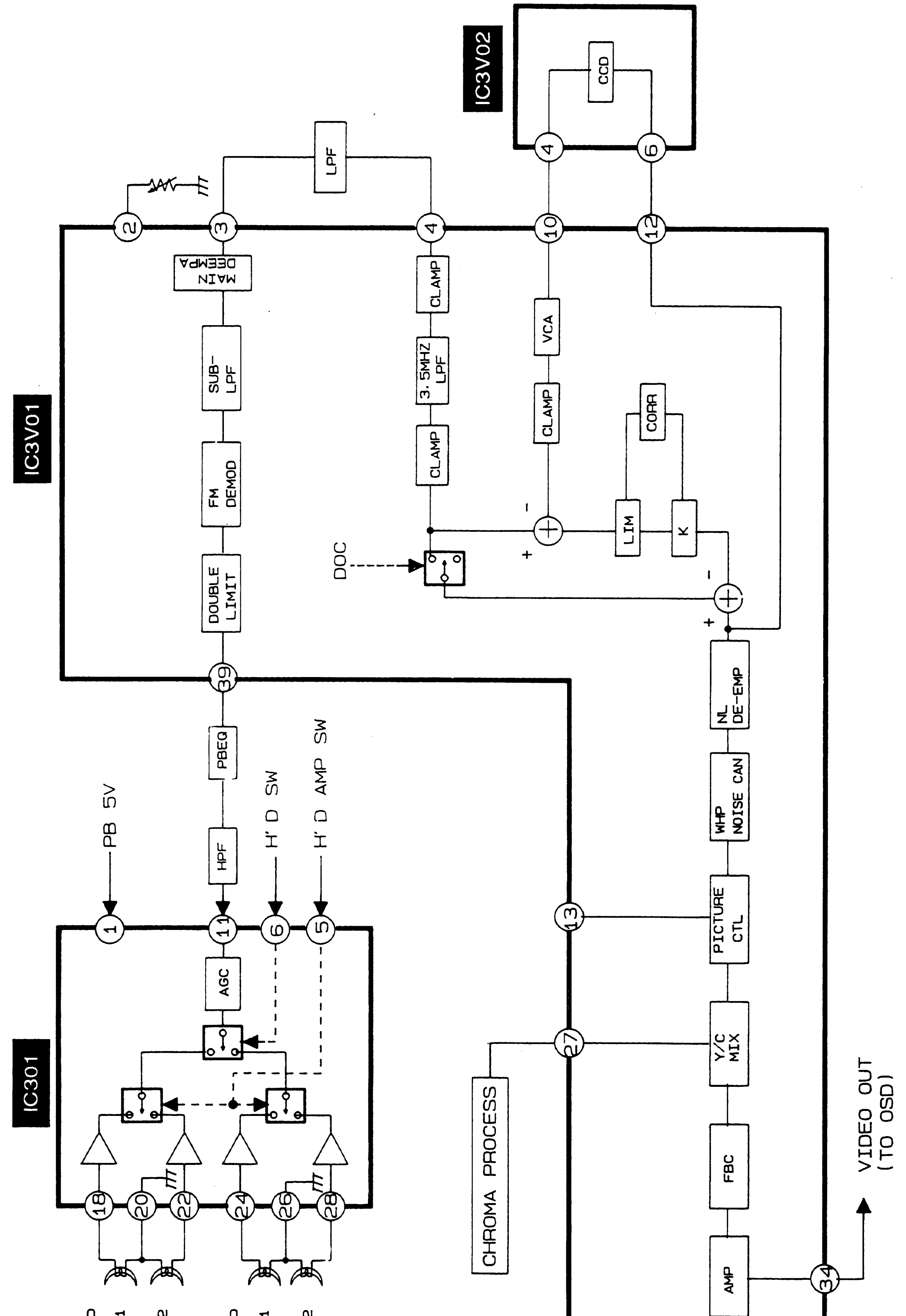
7-6. Audio Playback Process


IC501
AUDIO MUTE
DELAY PB
AUDIO R/F HEAD
15
4
EQ
12
10
R
P
LINE
30
LC
LPF
TO I/O CANAL
L503
C508
C509
C510
DLYD PB
10
3
6
7
8
23

7-7. Audio Record Process

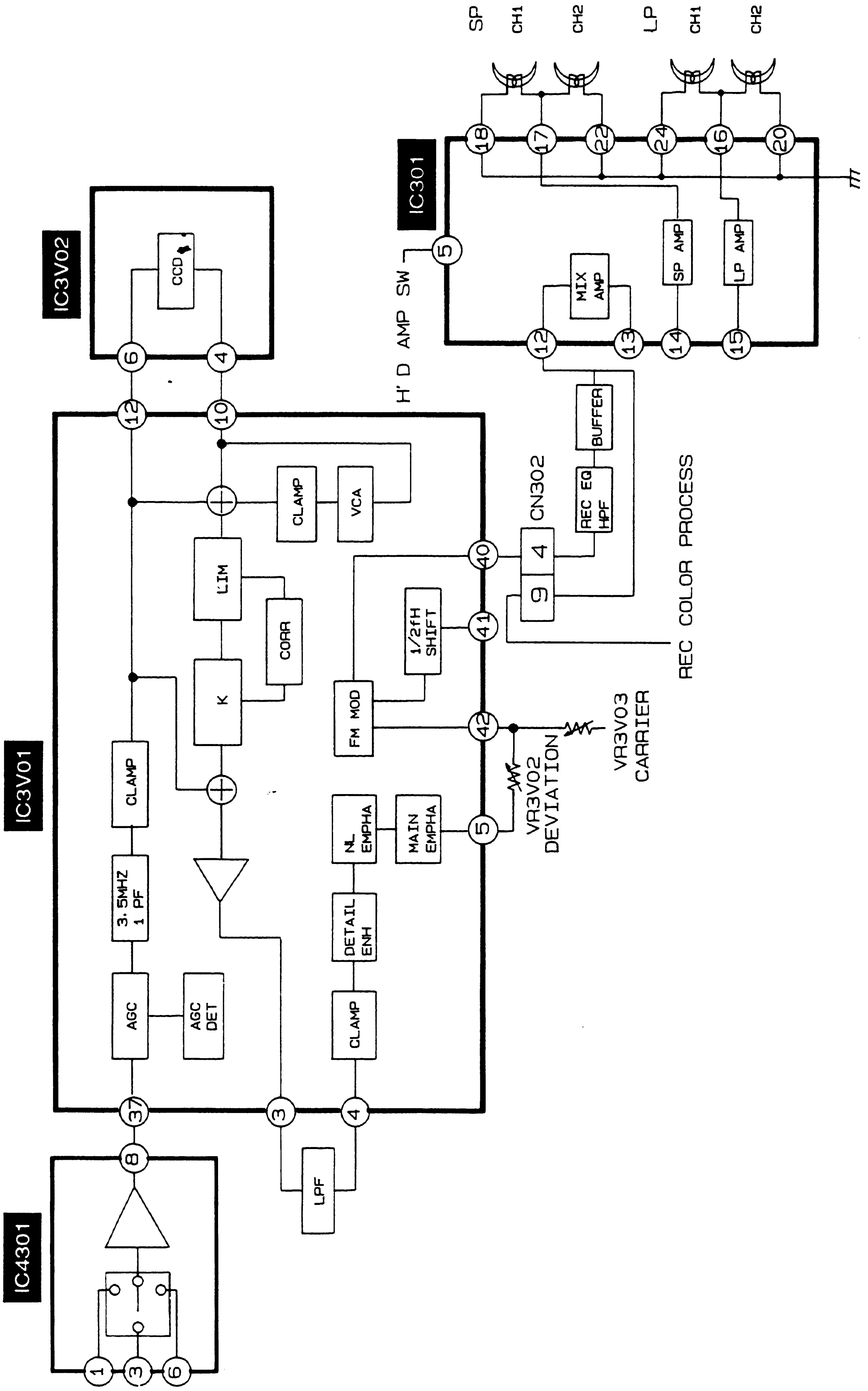

REC
EQ
L502
R503
C505
IC501
BIAS
OSC
12V
22
8
1
R
SLP/LP
ON
P
VR501
(AUDIO
BIAS
LEVEL)
REC
20
9
ALC
REC
ON
DLYD
REC
AUDIO
R/P
HEAD
FROM I/O CANAL
25
R
P
LINE
2
14
18
30
24
12
AUDIO
MUTE

7-8. Luminance Playback Process



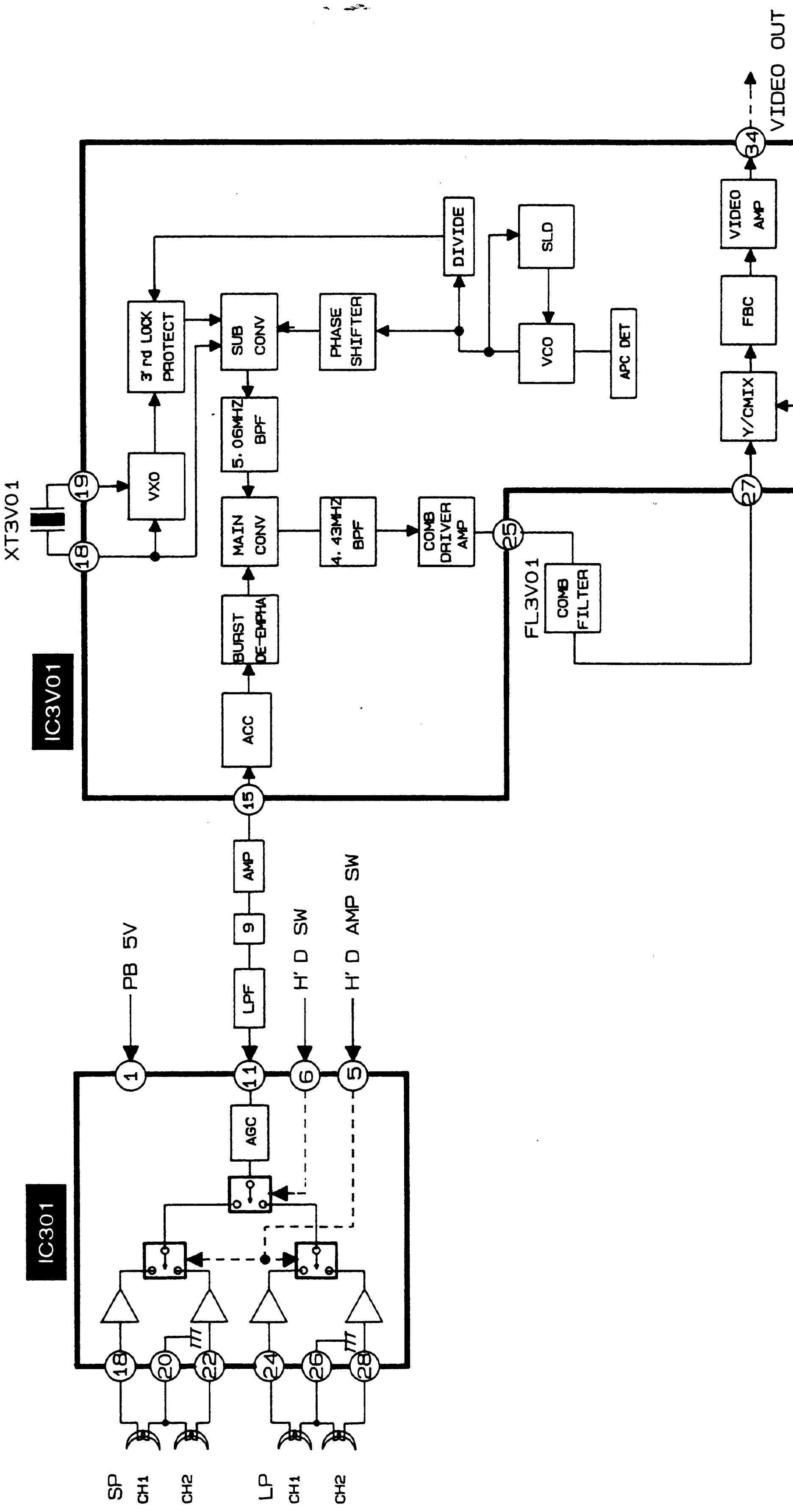
IC301
IC3V01
IC3V02
PB 5V
H' D SW
H' D AMP SW
AGC
HPF
PBEQ
DOUBLE LIMIT
FM DEMOD
SUB-LPF
MAIN DEEMPA
LPF
CCD
CLAMP
3.5MHZ LPF
CLAMP
DOC
VCA
CLAMP
CORR
LIM
K
+
-
+
-
NL DE-EMP
WHP NOISE CAN
PICTURE CTL
Y/C MIX
FBC
AMP
CHROMA PROCESS
VIDEO OUT (TO OSD)
SP CH1
CH2
LP CH1
CH2
1
11
6
5
18
20
22
24
26
28
39
2
3
4
10
12
4
6
13
27
34

7-9. Luminance Record Process

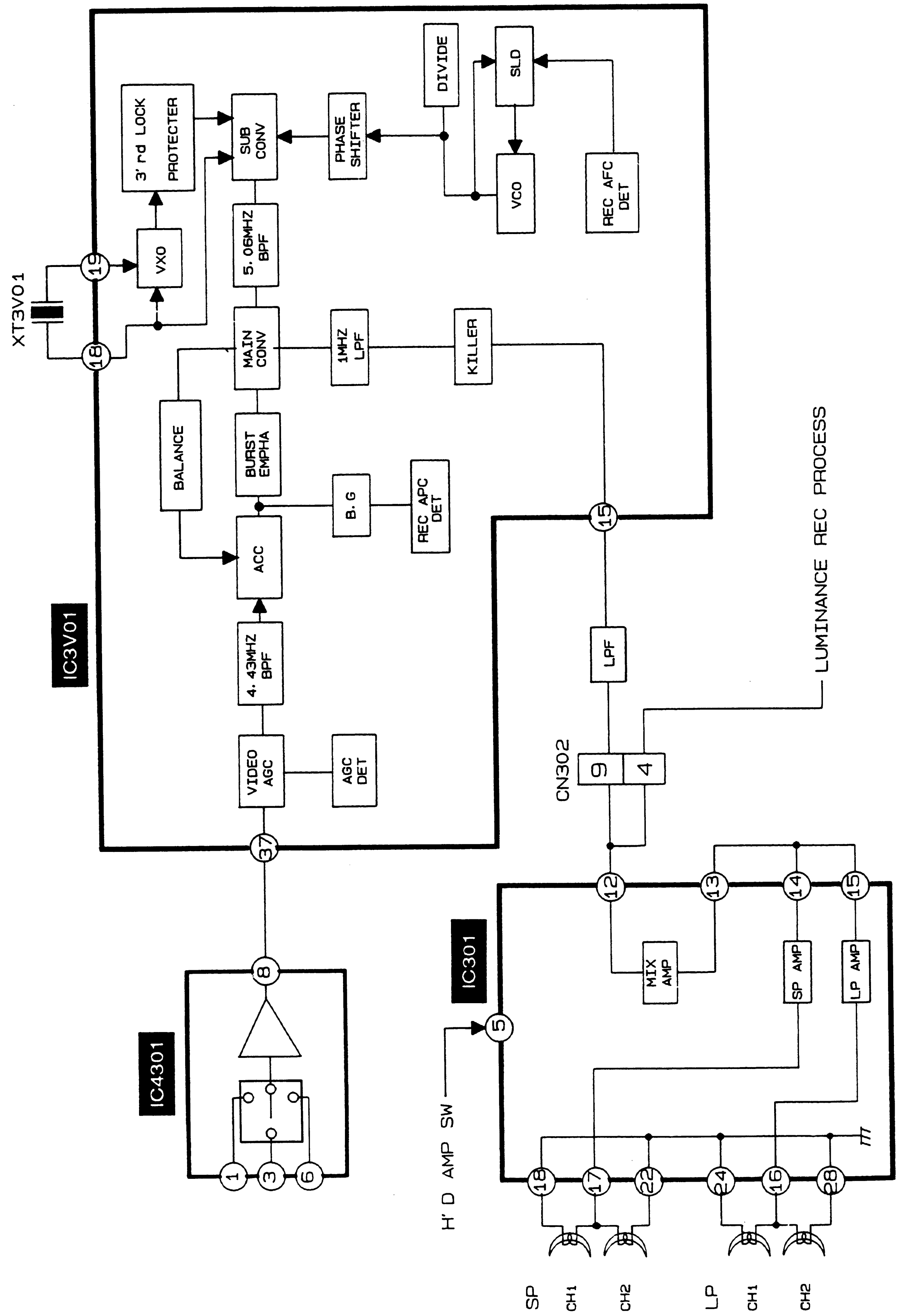


IC4301
1
3
6
8
IC3V01
37
AGC
AGC DET
3.5MHZ 1 PF
CLAMP
K
LIM
CORR
CLAMP
VCA
12
10
IC3V02
CCD
6
4
3
4
LPF
CLAMP
DETAIL ENH
NL EMPHA
MAIN EMPHA
FM MOD
1/2fH SHIFT
5
42
41
40
VR3V02 DEVIATION
VR3V03 CARRIER
CN302
4
9
REC EQ HPF
BUFFER
REC COLOR PROCESS
H'D AMP SW
IC301
5
MIX AMP
SP AMP
LP AMP
12
13
14
15
18
17
22
24
16
20
SP
CH1
CH2
LP
CH1
CH2

7-10. Chrominance Playback Process


IC301
IC3V01
XT3V01
FL3V01
VIDEO OUT
PB 5V
H' D SW
H' D AMP SW
SP
CH1
CH2
LP
CH1
CH2
18
20
22
24
26
28
1
11
6
5
AGC
LPF
9
AMP
15
ACC
BURST DE-EMPHA
MAIN CONV
4.43MHZ BPF
COMB DRIVER AMP
25
COMB FILTER
27
Y/CMIX
FBC
VIDEO AMP
34
5.06MHZ BPF
SUB CONV
PHASE SHIFTER
3'rd LOCK PROTECT
VXO
19
18
DIVIDE
SLD
VCO
APC DET

7-11. Chrominance Record Process


IC3V01
XT3V01
19
18
VXO
3'rd LOCK PROTECTER
SUB CONV
PHASE SHIFTER
DIVIDE
SLD
VCO
REC AFC DET
5.06MHZ BPF
MAIN CONV
1MHZ LPF
KILLER
BALANCE
BURST EMPHA
B.G
REC APC DET
ACC
4.43MHZ BPF
VIDEO AGC
AGC DET
37
15
LPF
CN302
9
4
LUMINANCE REC PROCESS
IC4301
8
1
3
6
IC301
12
13
14
15
MIX AMP
SP AMP
LP AMP
5
H' D AMP SW
18
17
22
24
16
28
SP
CH1
CH2
LP
CH1
CH2

8. CIRCUIT BOARDS

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8-1. Regulator ------------------------ 8-2

8-2. Pre-Amp ------------------------- 8-2

8-3. IF ------------------------------- 8-2

8-4. Main ---------------------------- 8-3

8-5. I/O ------------------------------ 8-4

8-6. Function/Timer ------------------- 8-4

8. CIRCUIT BOARDS

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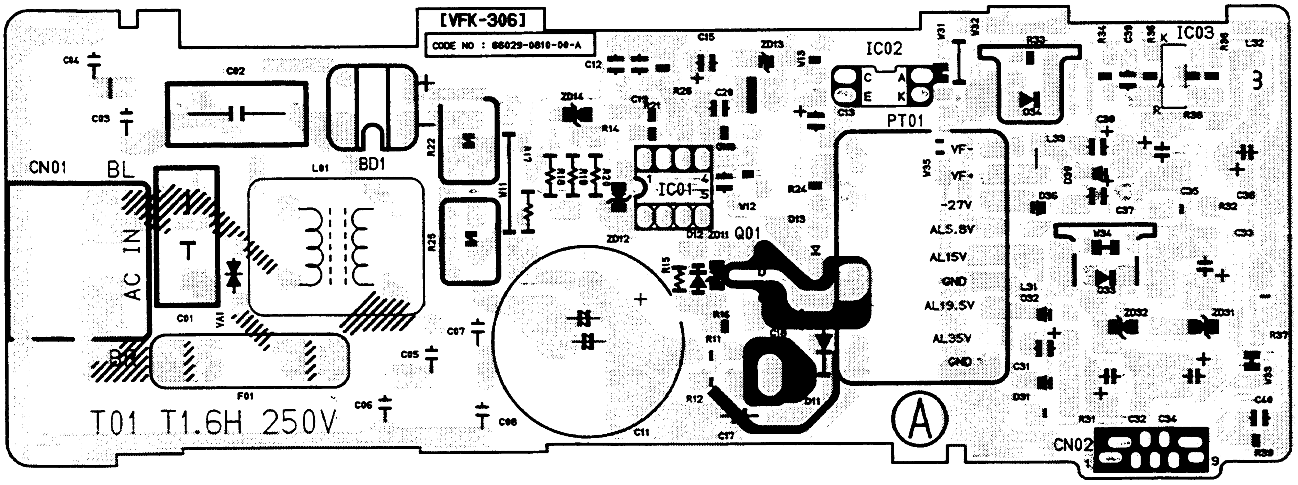
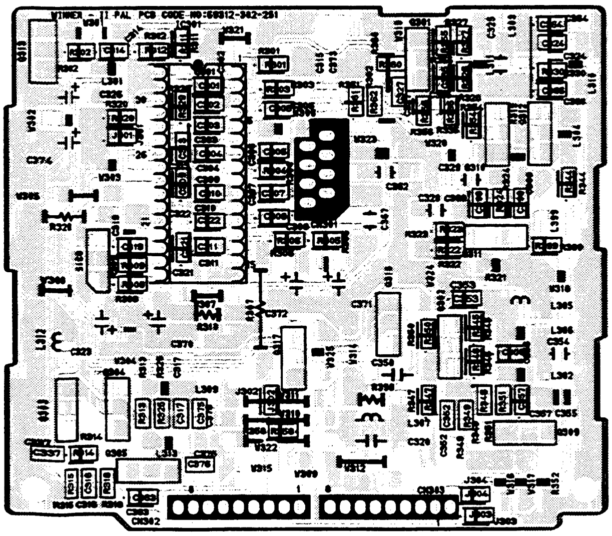
8-2. Pre-Amp ------------------------- 8-2
8-3. IF ------------------------------- 8-2
8-4. Main ---------------------------- 8-3
8-5. I/O ------------------------------ 8-4
8-6. Function/Timer ------------------- 8-4

8-1. Regulator


[VFK-306]
CODE NO : 66029-0810-00-A
CN01
BL
AC IN
BD1
IC01
IC02
PT01
Q01
IC03
VF-
VF+
-27V
AL5.8V
AL15V
GND
AL19.5V
AL35V
GND
CN02
T01 T1.6H 250V
A

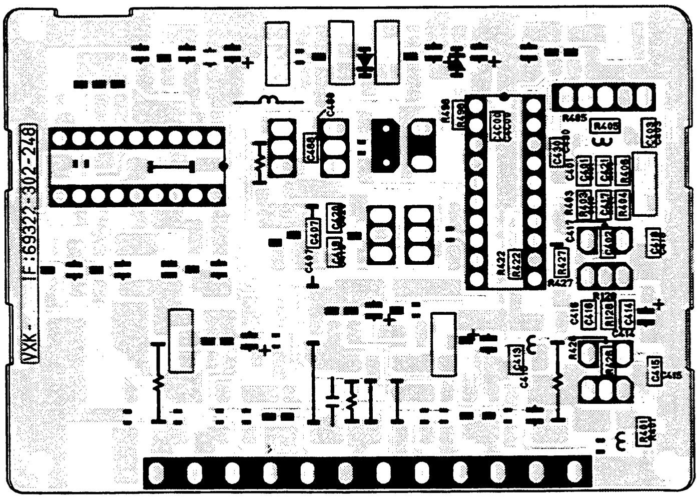
8-2. Pre-Amp

☐ : CHIP Parts



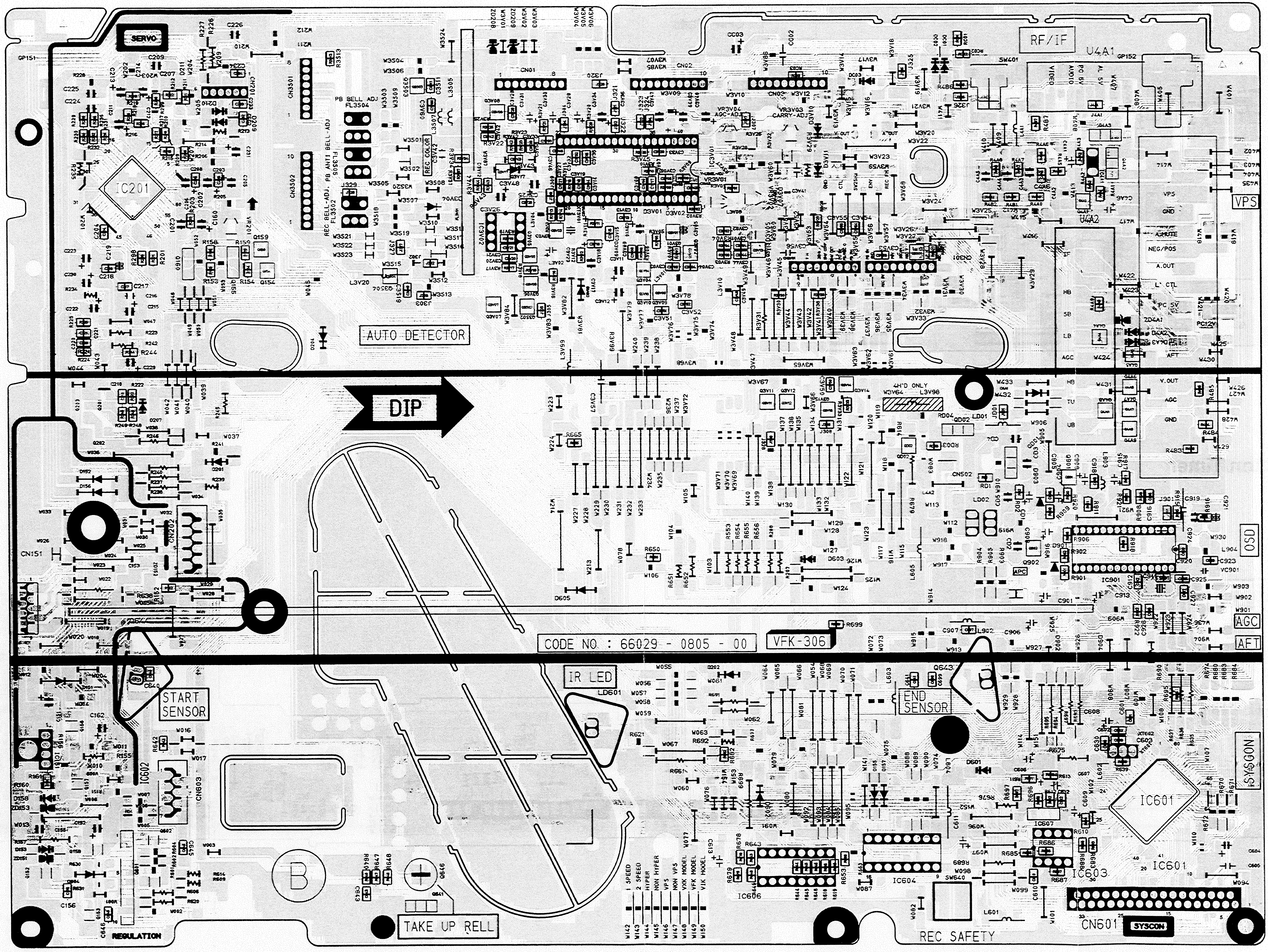
8-3. IF

☐ : CHIP Parts


VXK- IF:69322-302-248

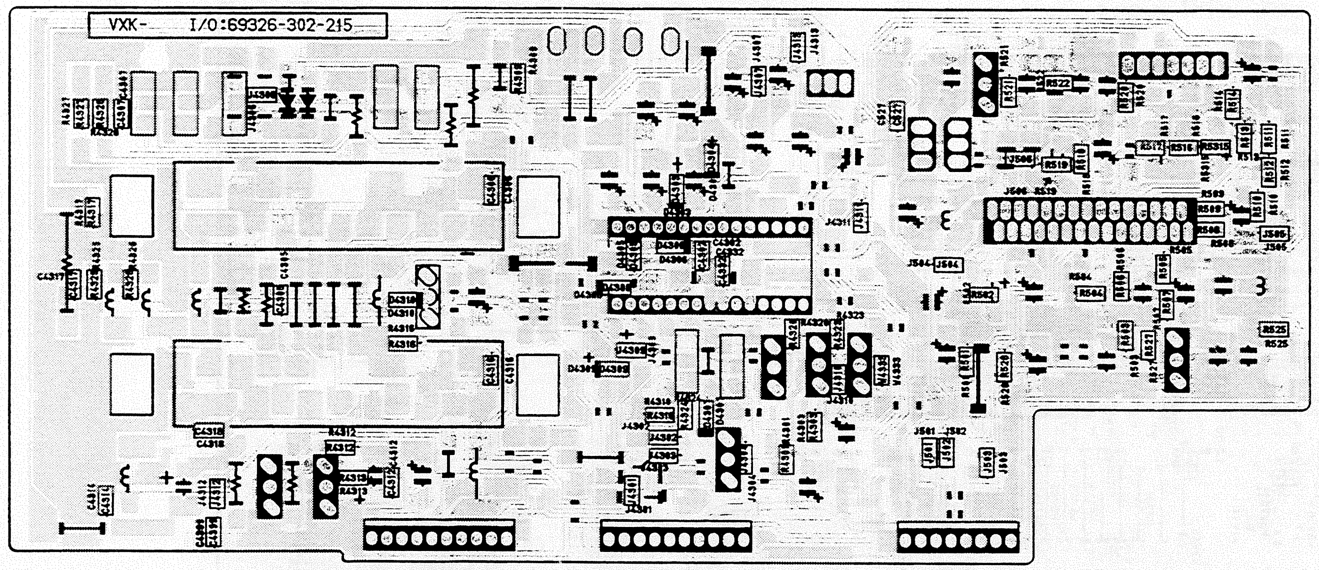
8-4. Main

☐ : CHIP Parts

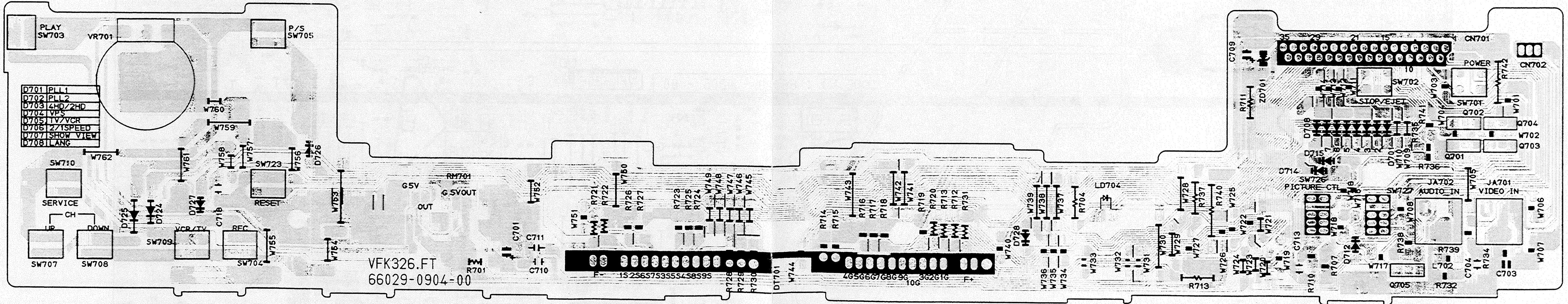

SERVO
IC201
CN3501
CN3502
PB BELL ADJ
REC BELL-ADJ. PB ANTI BELL-ADJ
REC COLOR
AUTO DETECTOR
CN01
CN02
CN03
RF/IF
U4A1
U4A2
VPS
DIP
OSD
AGC
AFT
IC901
CN151
CODE NO. : 66029 - 0805 - 00
VFK-306
IR LED
LD601
START SENSOR
END SENSOR
IC602
CN603
IC601
SYSCON
IC606
IC604
IC603
CN601
TAKE UP RELL
REC SAFETY
REGULATION
B

8-5. I/O

□ : CHIP Parts


VXK- I/O:69326-302-215

8-6. Function/Timer


PLAY
SW703
VR701
P/S
SW705
D701 PLL1
D702 PLL2
D703 4HD/2HD
D704 VPS
D705 TV/VCR
D706 2/1SPEED
D707 SHOW VIEW
D708 LANG
W760
W759
W762
SW710
SERVICE
CH
UP
DOWN
SW707
SW708
SW709
VCR/TV
REC
SW704
SW723
RESET
G5V
G.SVOUT
OUT
RM701
C701
C711
C710
R701
VFK326.FT
66029-0904-00
DT701
LD704
CN701
POWER
CN702
SW702
STOP/EJECT
SW701
Q702
Q704
W702
Q703
Q701
PICTURE CTL
SW726
SW727
JA702
AUDIO IN
JA701
VIDEO IN
R739
R732
Q705
C704
C703
R713

9. SCHEMATIC DIAGRAMS

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9-6. Pre-Amp ------------------------ 9-10

9-7. Audio -------------------------- 9-12

9-8. Tuner -------------------------- 9-14

9-9. IF ----------------------------- 9-15

9-10. O.S.D -------------------------- 9-16

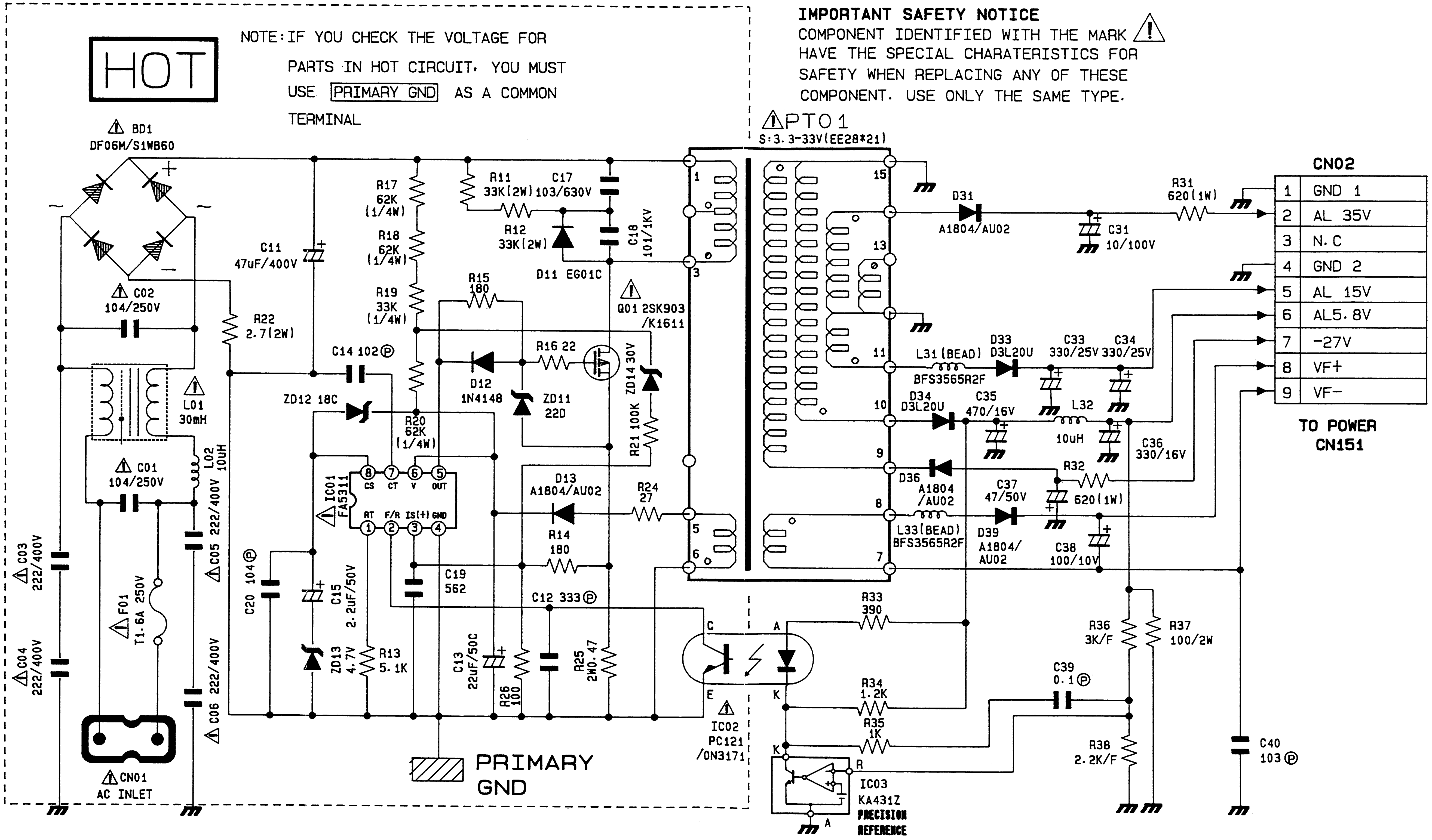
9-11. I/O ------ ----------------------- 9-18

9-12. I/O Main ----------------------- 9-19

9-13. Function/Timer ------------------ 9-20

9-14. Remote Control ------------------ 9-21

9-1. Regulator



NOTE: IF YOU CHECK THE VOLTAGE FOR PARTS IN HOT CIRCUIT, YOU MUST USE PRIMARY GND AS A COMMON TERMINAL

IMPORTANT SAFETY NOTICE
COMPONENT IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARATERISTICS FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENT. USE ONLY THE SAME TYPE.

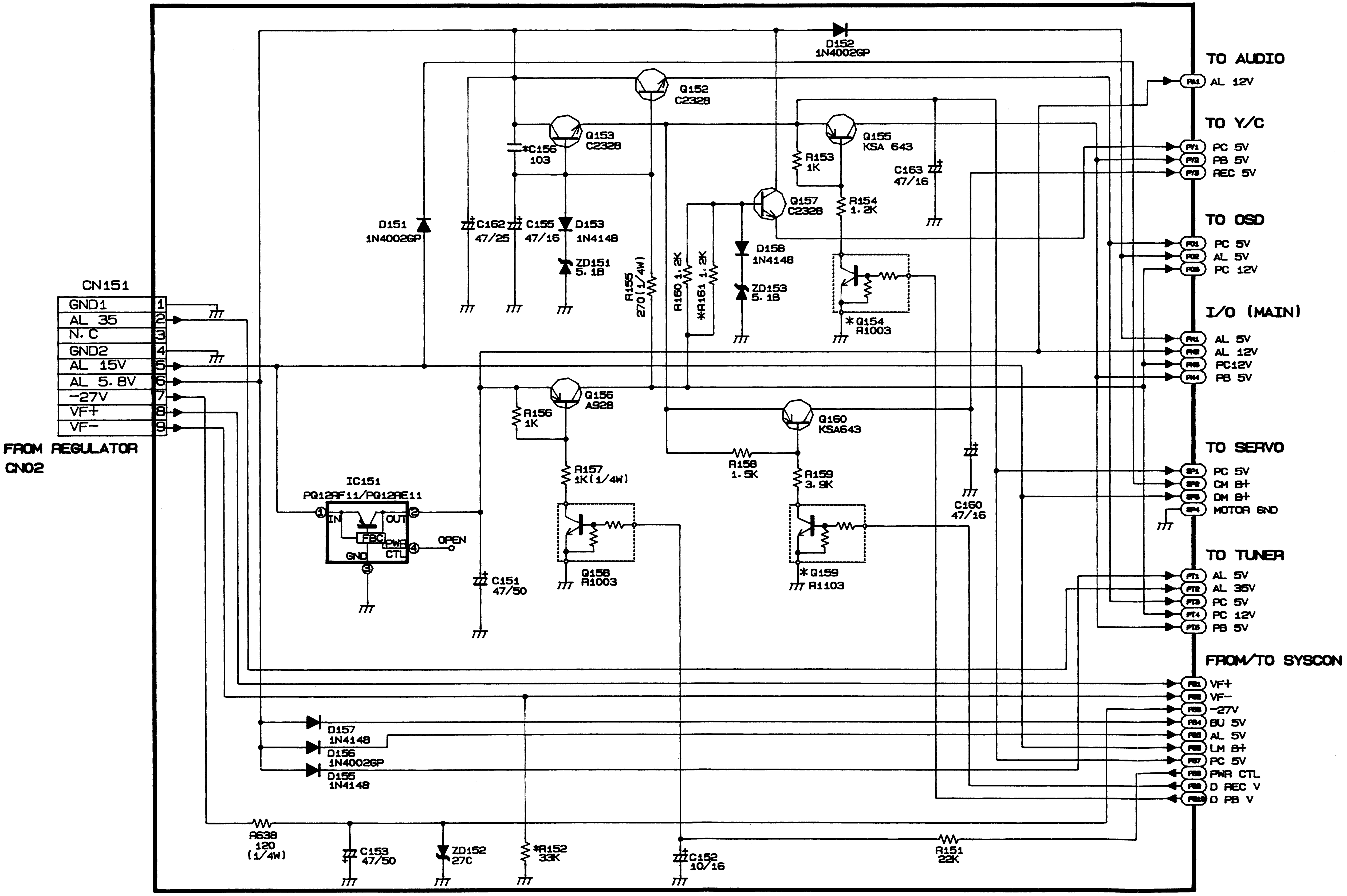
HOT
⚠ BD1
DF06M/S1WB60
⚠ C02
104/250V
R22
2.7(2W)
⚠ L01
30mH
⚠ C01
104/250V
L02
10uH
⚠ C03
222/400V
⚠ C04
222/400V
⚠ C05 222/400V
⚠ C06 222/400V
⚠ F01
T1.6A 250V
⚠ CN01
AC INLET
C11
47uF/400V
R17
62K
(1/4W)
R18
62K
(1/4W)
R19
33K
(1/4W)
R20
62K
(1/4W)
R11
33K(2W)
C17
103/630V
R12
33K(2W)
D11 EG01C
C18
101/1KV
R15
180
R16 22
D12
1N4148
ZD11
22D
⚠ Q01 2SK903
/K1611
ZD14 30V
R21 100K
C14 102Ⓟ
ZD12 18C
⚠ IC01
FA5311
CS CT V OUT
RT F/R IS(+) GND
D13
A1804/AU02
R24
27
R14
180
C19
562
C12 333Ⓟ
C20 104Ⓟ
C15
2.2uF/50V
ZD13
4.7V
R13
5.1K
C13
22uF/50C
R26
100
R25
2W0.47
PRIMARY
GND
C
E
A
K
⚠ IC02
PC121
/ON3171
⚠PT01
S:3.3-33V(EE28*21)
1
3
5
6
15
13
11
10
9
8
7
D31
A1804/AU02
C31
10/100V
R31
620(1W)
L31(BEAD)
BFS3565R2F
D33
D3L20U
C33
330/25V
C34
330/25V
D34
D3L20U
C35
470/16V
L32
10uH
C36
330/16V
D36
A1804
/AU02
R32
620(1W)
C37
47/50V
L33(BEAD)
BFS3565R2F
D39
A1804/
AU02
C38
100/10V
R33
390
R34
1.2K
R35
1K
R36
3K/F
R37
100/2W
C39
0.1Ⓟ
R38
2.2K/F
C40
103Ⓟ
IC03
KA431Z
PRECISION
REFERENCE
K
R
A
CN02
1 GND 1
2 AL 35V
3 N.C
4 GND 2
5 AL 15V
6 AL5.8V
7 -27V
8 VF+
9 VF-
TO POWER
CN151

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

IMPORTANT SAFETY NOTICES
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

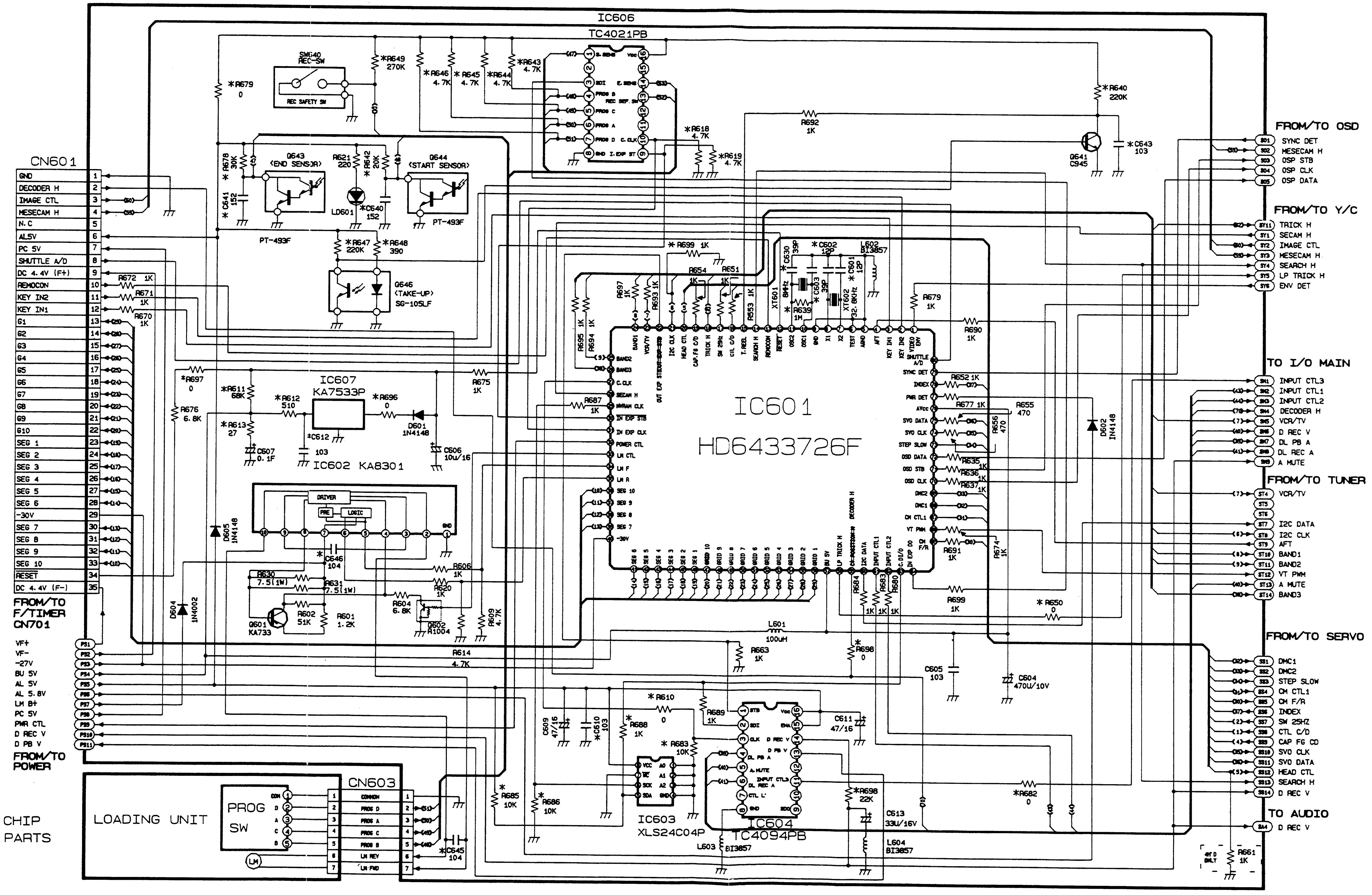
9-2. Power


CN151
1 GND1
2 AL 35
3 N.C
4 GND2
5 AL 15V
6 AL 5.8V
7 -27V
8 VF+
9 VF-
FROM REGULATOR
CN02
D152
1N4002GP
Q152
C2328
Q153
C2328
*C156
103
Q155
KSA 643
R153
1K
C163
47/16
Q157
C2328
R154
1.2K
D151
1N4002GP
C162
47/25
C155
47/16
D153
1N4148
ZD151
5.1B
R155
270(1/4W)
R150 1.2K
*R161 1.2K
D158
1N4148
ZD153
5.1B
*Q154
R1003
Q156
A928
R156
1K
R157
1K(1/4W)
Q158
R1003
Q160
KSA643
R158
1.5K
R159
3.9K
*Q159
R1103
C160
47/16
IC151
PQ12RF11/PQ12RE11
IN
OUT
FBC
PWR CTL
GND
OPEN
C151
47/50
D157
1N4148
D156
1N4002GP
D155
1N4148
R638
120
(1/4W)
C153
47/50
ZD152
27C
*R152
33K
C152
10/16
R151
22K
TO AUDIO
AL 12V
TO Y/C
PC 5V
PB 5V
REC 5V
TO OSD
PC 5V
AL 5V
PC 12V
I/O (MAIN)
AL 5V
AL 12V
PC12V
PB 5V
TO SERVO
PC 5V
CM B+
DM B+
MOTOR GND
TO TUNER
AL 5V
AL 35V
PC 5V
PC 12V
PB 5V
FROM/TO SYSCON
VF+
VF-
-27V
BU 5V
AL 5V
LM B+
PC 5V
PWR CTL
D REC V
D PB V

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

9-3. System Control

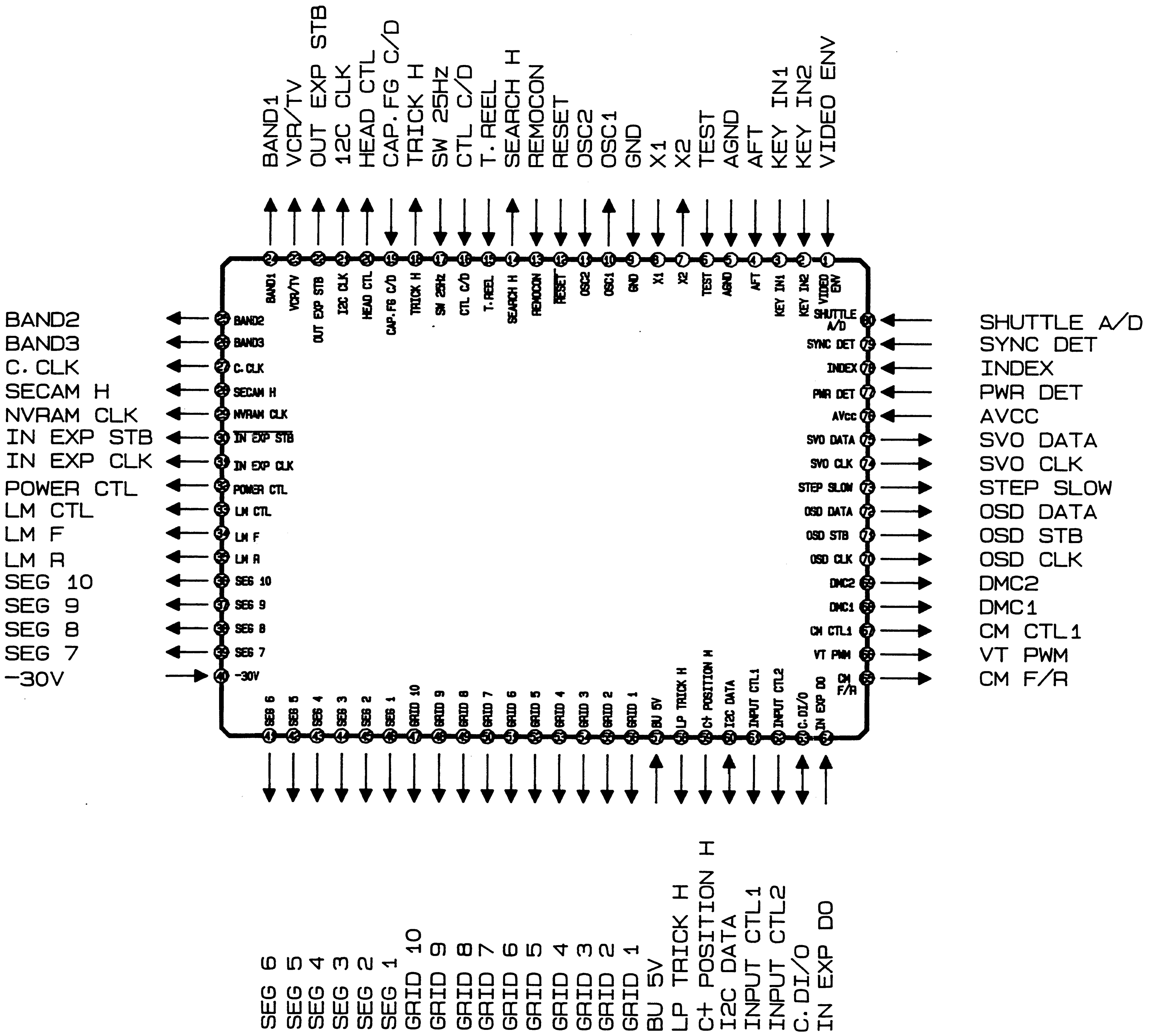

IC606
TC4021PB
IC601
HD6433726F
IC607
KA7533P
IC602 KA8301
IC603
XLS24C04P
IC604
TC4094PB
CN601
GND
DECODER H
IMAGE CTL
MESECAM H
N.C
AL5V
PC 5V
SHUTTLE A/D
DC 4.4V (F+)
REMOCON
KEY IN2
KEY IN1
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
SEG 1
SEG 2
SEG 3
SEG 4
SEG 5
SEG 6
-30V
SEG 7
SEG 8
SEG 9
SEG 10
RESET
DC 4.4V (F-)
FROM/TO F/TIMER CN701
VF+
VF-
-27V
BU 5V
AL 5V
AL 5.8V
LM B+
PC 5V
PWR CTL
D REC V
D PB V
FROM/TO POWER
*: CHIP PARTS
LOADING UNIT
PROG SW
CN603
COMMON
PROG D
PROG A
PROG C
PROG B
LM REV
LM FWD
SW640 REC-SW
REC SAFETY SW
Q643 (END SENSOR)
Q644 (START SENSOR)
PT-493F
LD601
Q646 (TAKE-UP) SG-105LF
Q641 C945
Q601 KA733
D601 1N4148
D602 1N4148
D604 1N4002
D605 1N4148
XT601 8MHz
XT602 32.8KHz
L601 100uH
L602 BI3857
L603 BI3857
L604 BI3857
FROM/TO OSD
SYNC DET
MESECAM H
OSD STB
OSD CLK
OSD DATA
FROM/TO Y/C
TRICK H
SECAM H
IMAGE CTL
MESECAM H
SEARCH H
LP TRICK H
ENV DET
TO I/O MAIN
INPUT CTL3
INPUT CTL1
INPUT CTL2
DECODER H
VCR/TV
D REC V
DL PB A
DL REC A
A MUTE
FROM/TO TUNER
VCR/TV
I2C DATA
I2C CLK
AFT
BAND1
BAND2
VT PWM
A MUTE
BAND3
FROM/TO SERVO
DMC1
DMC2
STEP SLOW
CH CTL1
CH F/R
INDEX
SW 25HZ
CTL C/D
CAP FG CD
SVO CLK
SVO DATA
HEAD CTL
SEARCH H
D REC V
TO AUDIO
D REC V

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

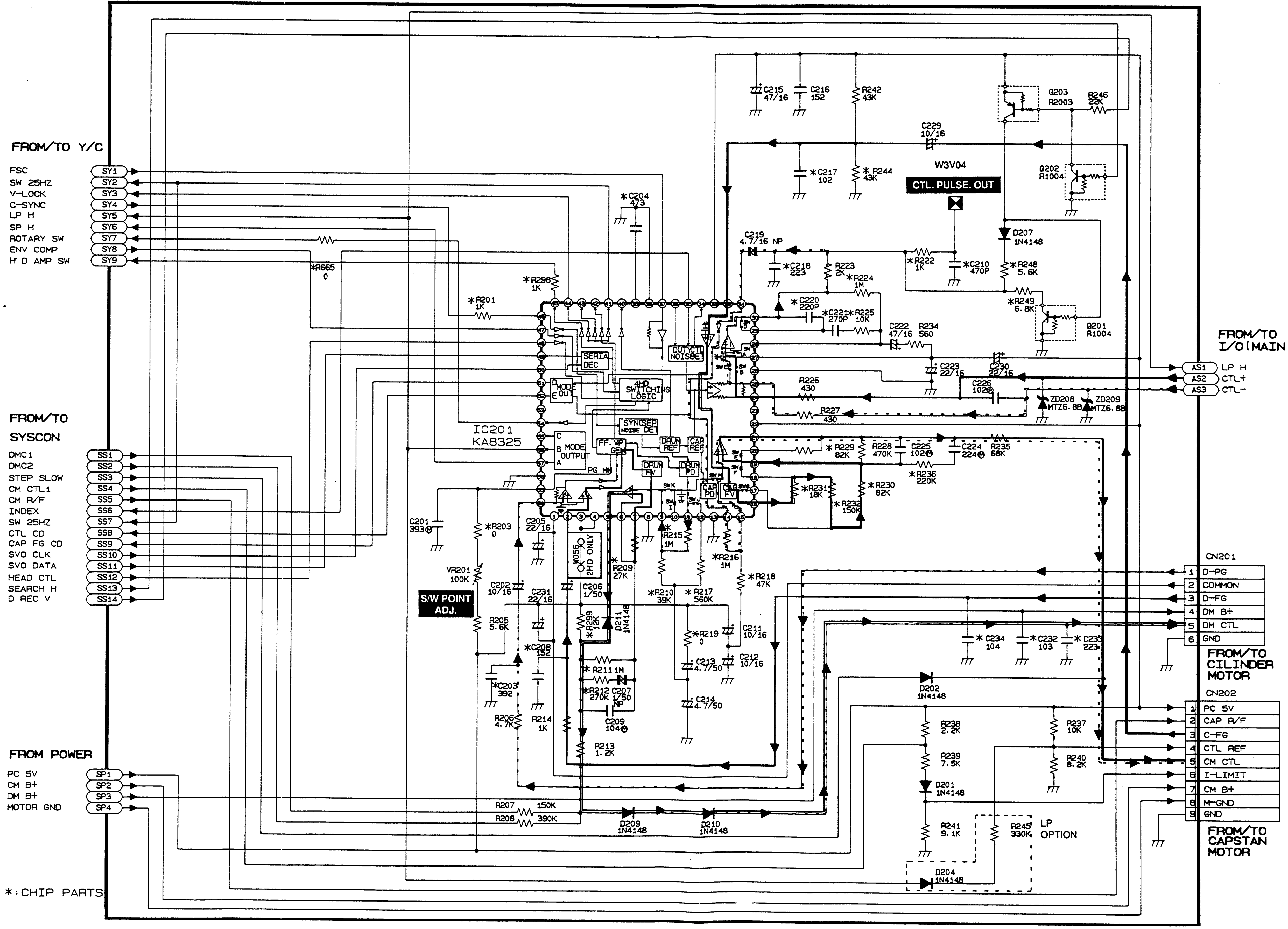
IC601							
MODE / PIN NO	STOP	REC	PLAY	MODE / PIN NO	STOP	REC	PLAY
1	–	0	2.5	41	–28	–28	–28
2	4.5	4.5	4.5	42	–28	–28	–28
3	4	4	4	43	–28	–28	–28
4	4.8	4.8	4.8	44	–28	–28	–28
5	0	0	0	45	–28	–28	–28
6	0	0	0	46	–28	–28	–28
7	1.4	1.4	1.4	47	–28	–28	–28
8	0.8	0.8	0.8	48	–28	–28	–28
9	0	0	0	49	–28	–28	–28
10	2.3	2.3	2.3	50	–28	–28	–28
11	2.5	2.5	2.5	51	–28	–28	–28
12	5	5	5	52	–28	–28	–28
13	5.2	5.2	5.2	53	–28	–28	–28
14	0	0	0	54	–28	–28	–28
15	0/5	0/5	0/5	55	–	–	–
16	0/5	0/5	0/5	56	–	–	–
17	0.5	0.5	0.5	57	5	5	5
18	0	0	0	58	0	0	5
19	5	0/5	0/5	59	0	0	0
20	0	0/5	0/5	60	5	5	5
21	0	0	0	61	0	0	0
22	5	5	5	62	0	0	0
23	5	5	5	63	0/5	0/5	0/5
24	5	5	5	64	0/5	0/5	0/5
25	0	0	0	65	4.9	4.9	4.9
26	0	0	0	66	0/4.9	0/4.9	0/4.9
27	0	0	0	67	0.1	4.6	4.6
28	0	0	0	68	1.2	1.4	1.4
29	0	0	0	69	1.2	1.4	1.4
30	5	5	5	70	0/4.9	0/4.9	0/4.9
31	5	5	5	71	0/4.9	0/4.9	0/4.9
32	5	5	5	72	0/5	0/5	0/5
33	5	5	5	73	0	0	0
34	5	5	5	74	0/5	0/5	0/5
35	5	5	5	75	0/5	0/5	0/5
36	–	–	–	76	5	5	5
37	5	5	5	77	5	5	5
38	5	5	5	78	5	5	5
39	5	5	5	79	0.3	0.3	0.3
40	–2.8	–2.8	–2.8	80	2.5	2.5	2.5

IC601 HD6433726F


BAND1
VCR/TV
OUT EXP STB
12C CLK
HEAD CTL
CAP.FG C/D
TRICK H
SW 25Hz
CTL C/D
T.REEL
SEARCH H
REMOCON
RESET
OSC2
OSC1
GND
X1
X2
TEST
AGND
AFT
KEY IN1
KEY IN2
VIDEO ENV
BAND2
BAND3
C.CLK
SECAM H
NVRAM CLK
IN EXP STB
IN EXP CLK
POWER CTL
LM CTL
LM F
LM R
SEG 10
SEG 9
SEG 8
SEG 7
-30V
SHUTTLE A/D
SYNC DET
INDEX
PWR DET
AVCC
SVO DATA
SVO CLK
STEP SLOW
OSD DATA
OSD STB
OSD CLK
DMC2
DMC1
CM CTL1
VT PWM
CM F/R
SEG 6
SEG 5
SEG 4
SEG 3
SEG 2
SEG 1
GRID 10
GRID 9
GRID 8
GRID 7
GRID 6
GRID 5
GRID 4
GRID 3
GRID 2
GRID 1
BU 5V
LP TRICK H
C+ POSITION H
I2C DATA
INPUT CTL1
INPUT CTL2
C.DI/O
IN EXP DO

9-4. Servo

RED ———— CYLINDER SPEED CONTROL
RED - - - - - CYLINDER PHASE CONTROL
BLUE ———— CAPSTAN SPEED CONTROL
BLUE - - - - - CAPSTAN PHASE CONTROL


FROM/TO Y/C
FSC SY1
SW 25HZ SY2
V-LOCK SY3
C-SYNC SY4
LP H SY5
SP H SY6
ROTARY SW SY7
ENV COMP SY8
H' D AMP SW SY9
FROM/TO SYSCON
DMC1 SS1
DMC2 SS2
STEP SLOW SS3
CM CTL1 SS4
CM R/F SS5
INDEX SS6
SW 25HZ SS7
CTL CD SS8
CAP FG CD SS9
SVO CLK SS10
SVO DATA SS11
HEAD CTL SS12
SEARCH H SS13
D REC V SS14
FROM POWER
PC 5V SP1
CM B+ SP2
DM B+ SP3
MOTOR GND SP4
*:CHIP PARTS
IC201 KA8325
SERIAL DEC
MODE OUT
4HD SWITCHING LOGIC
SYNCSEP NOISE DET
DUTYCTL NOISBE
MODE OUTPUT
FF. VP GEN
PG MM
DRUM REF
CAP REF
DRUM FV
DRUM PD
CAP PD
CAP FV
S/W POINT ADJ.
CTL. PULSE. OUT
W3V04
Q203 R2003
Q202 R1004
Q201 R1004
FROM/TO I/O(MAIN)
AS1 LP H
AS2 CTL+
AS3 CTL-
CN201
1 D-PG
2 COMMON
3 D-FG
4 DM B+
5 DM CTL
6 GND
FROM/TO CILINDER MOTOR
CN202
1 PC 5V
2 CAP R/F
3 C-FG
4 CTL REF
5 CM CTL
6 I-LIMIT
7 CM B+
8 M-GND
9 GND
FROM/TO CAPSTAN MOTOR
LP OPTION
C215 47/16
C216 152
R242 43K
R246 22K
C229 10/16
*C217 102
*R244 43K
D207 1N4148
C219 4.7/16 NP
*C218 223
R223 2K
*R224 1M
*R222 1K
*C210 470P
*R248 5.6K
*R249 6.8K
*C220 220P
*C221 270P
*R225 10K
C222 47/16
R234 560
C223 22/16
C230 22/16
C226 102
ZD208 MTZ6.8B
ZD209 MTZ6.8B
R226 430
R227 430
*R229 82K
R228 470K
C225 102
C224 224
R235 68K
*R236 220K
*R231 18K
*R232 150K
*R230 82K
*C204 473
*R298 1K
*R665 0
*R201 1K
C201 393
*R203 0
VR201 100K
C205 22/16
W056 2HD ONLY
R209 27K
*R215 1M
*R216 1M
*R218 47K
C202 10/16
C231 22/16
C206 1/50
R299 12K
D211 1N4148
*R210 39K
*R217 560K
R205 5.6K
*C208 152
*R219 0
C211 10/16
C212 10/16
C213 4.7/50
C214 4.7/50
*R211 1M
*R212 270K
C207 1/50 NP
C209 104
*C203 392
R206 4.7K
R214 1K
R213 1.2K
R207 150K
R208 390K
D209 1N4148
D210 1N4148
D202 1N4148
*C234 104
*C232 103
*C233 223
R238 2.2K
R239 7.5K
D201 1N4148
R237 10K
R240 8.2K
R241 9.1K
R245 330K
D204 1N4148

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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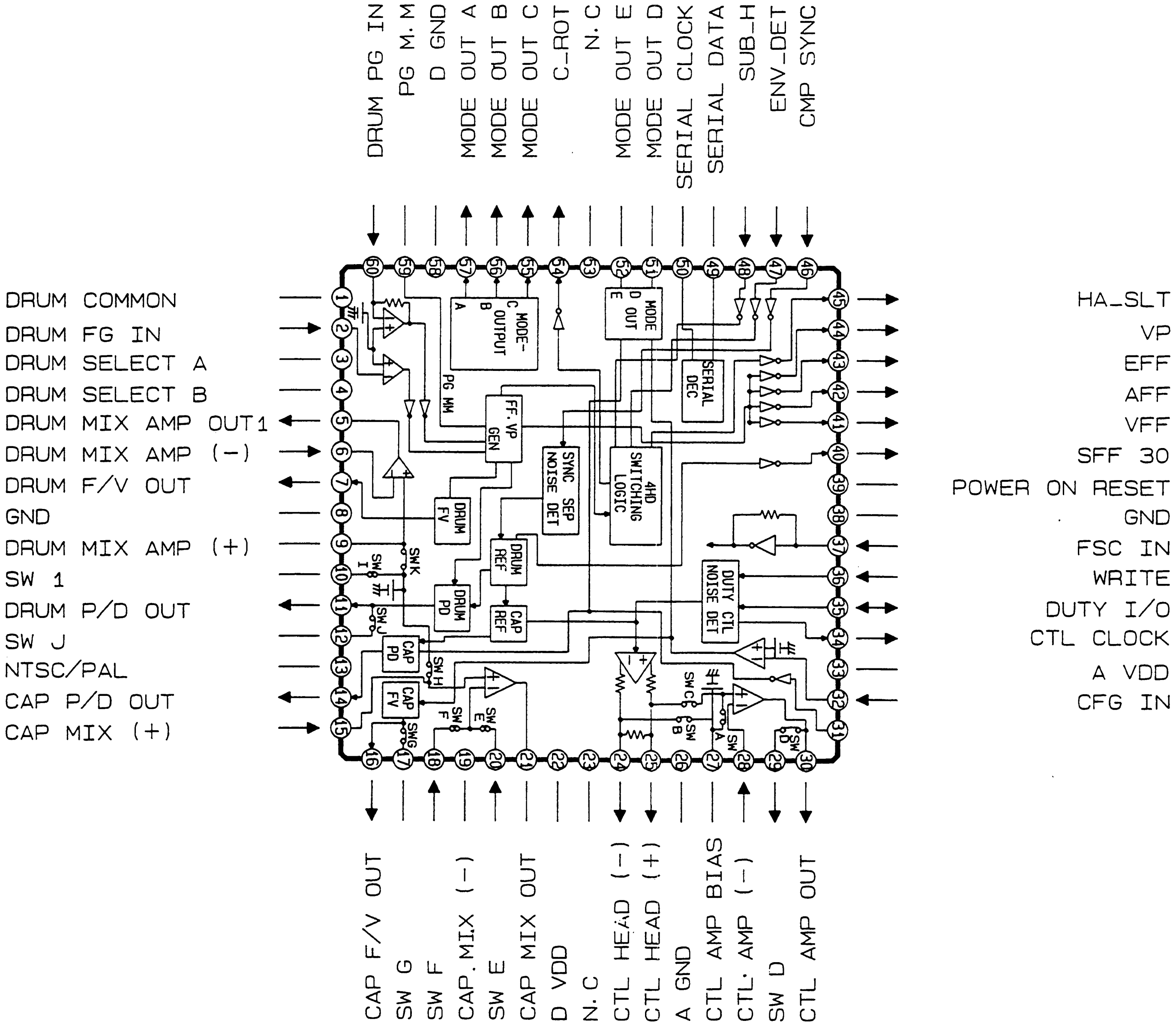
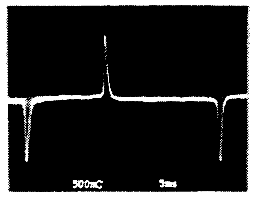
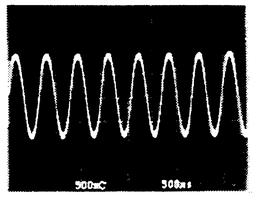
IC201							
MODE PIN NO	STOP	REC	PLAY	MODE PIN NO	STOP	REC	PLAY
1	2.5	2.5	2.5	31	2.5	2.5	-
2	2.5	2.5	2.5	32	2.5	-	-
3	5	5	5	33	5.1	5.1	5.1
4	5	5	5	34	5	0/5	0/5
5	0.7	1.8	1.8	35	5	5	5
6	0.1	2.5	2.5	36	5	5	5
7	0.8	2.5	2.5	37	-	-	-
8	0	0	0	38	0	0	0
9	2.5	2.5	2.5	39	5	5	5
10	0	0	0	40	0/5	0/5	0/5
11	5	5	5	41	0/5	0/5	0/5
12	2.3	2.3	2.3	42	0/5	0/5	0/5
13	0	0	0	43	0/5	0/5	0/5
14	5.1	2.6	2.6	44	0	0	0
15	2.5	2.5	2.5	45	5	5	5
16	0.8	2.6	2.6	46	4.2	4.2	4.2
17	0.8	2.6	2.6	47	2.8	2.8	2.8
18	0.8	2.6	2.6	48	5	5	5
19	0.8	2.6	2.6	49	0.6/5	0.6/5	0.6/5
20	0	2.5	2.5	50	0.6/5	0.6/5	0.6/5
21	0	2.5	2.5	51	5	5	0/5
22	5.1	5.1	5.1	52	5	5	0/5
23	0	0	0	53	0	0	0
24	2.5	-	2.5	54	0/5	0/5	0/5
25	2.5	-	2.5	55	0	0	0
26	0	0	0	56	0	0	0
27	2.5	2.5	2.5	57	5	5	5
28	2.5	2.5	2.5	58	0	0	0
29	2.5	2.5	-	59	-	-	-
30	2.5	2.5	-	60	2.5	2.5	2.5

IC201 KA8325

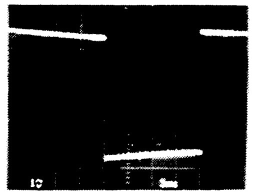

DRUM PG IN
PG M.M
D GND
MODE OUT A
MODE OUT B
MODE OUT C
C_ROT
N.C
MODE OUT E
MODE OUT D
SERIAL CLOCK
SERIAL DATA
SUB_H
ENV_DET
CMP SYNC
DRUM COMMON
DRUM FG IN
DRUM SELECT A
DRUM SELECT B
DRUM MIX AMP OUT1
DRUM MIX AMP (-)
DRUM F/V OUT
GND
DRUM MIX AMP (+)
SW 1
DRUM P/D OUT
SW J
NTSC/PAL
CAP P/D OUT
CAP MIX (+)
HA_SLT
VP
EFF
AFF
VFF
SFF 30
POWER ON RESET
GND
FSC IN
WRITE
DUTY I/O
CTL CLOCK
A VDD
CFG IN
CAP F/V OUT
SW G
SW F
CAP.MIX (-)
SW E
CAP MIX OUT
D VDD
N.C
CTL HEAD (-)
CTL HEAD (+)
A GND
CTL AMP BIAS
CTL AMP (-)
SW D
CTL AMP OUT
MODE-C OUTPUT B A
PG MM
FF.VP GEN
SYNC SEP NOISE DET
4HD SWITCHING LOGIC
SERIAL DEC
MODE D OUT E
DRUM FV
DRUM REF
DRUM PD
CAP REF
CAP PD
CAP FV
DUTY CTL NOISE DET
SW K
SW I
SW J
SW H
SW F
SW E
SW G
SW C
SW B
SW A
SW D



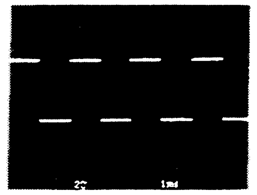
IC201-31
1.3Vp-p
PB



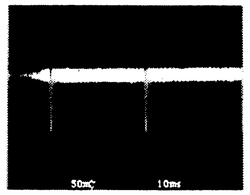
IC201-32
1.8Vp-p
PB



IC201-41
5Vp-p
PB



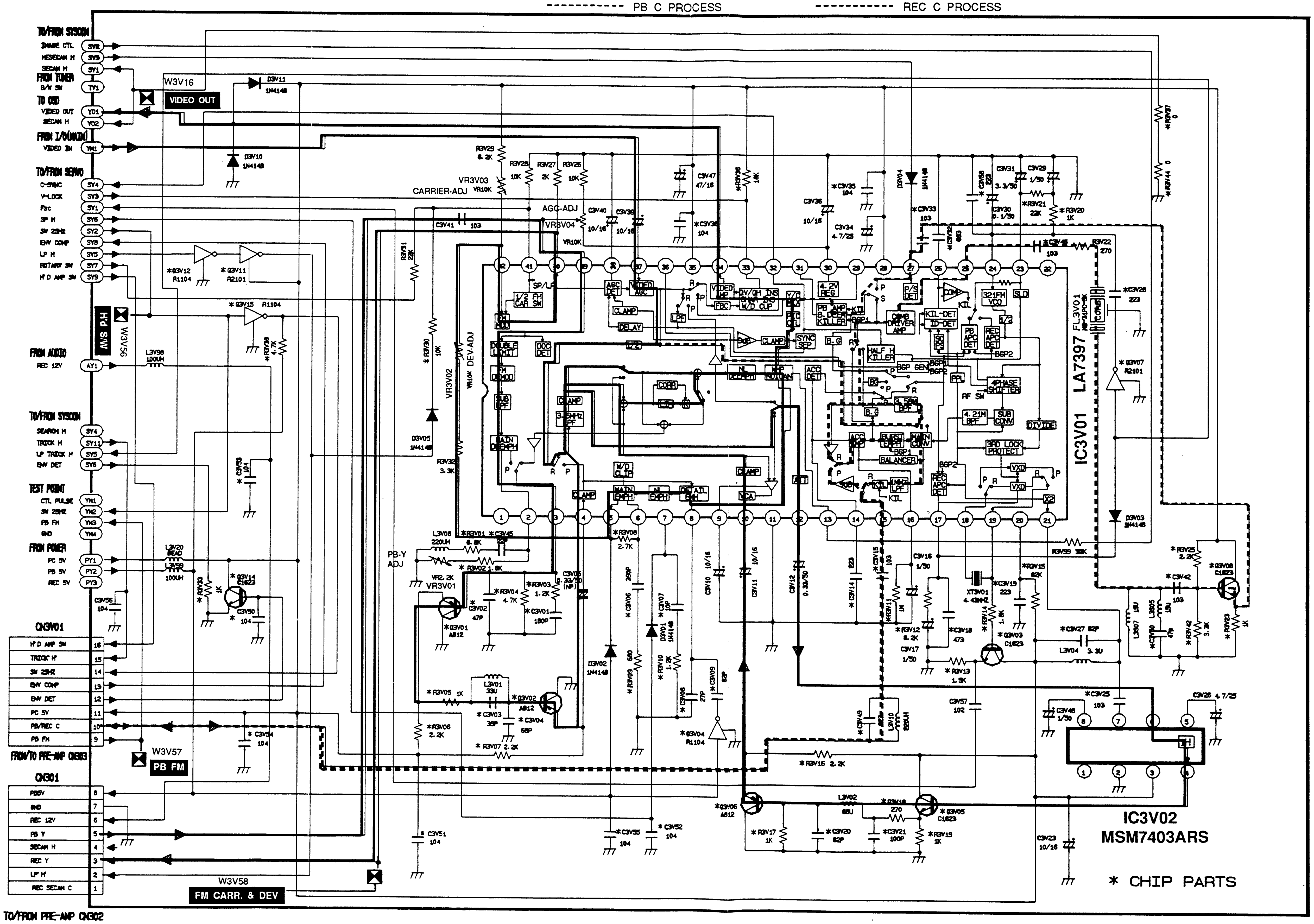
IC201-51
2.5Vp-p
PB



IC201-60
130mVp-p
PB

9-5. Luminance/Chrominance

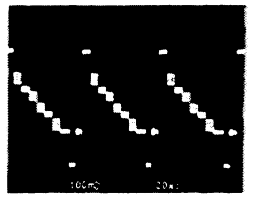
RED		BLUE	
————	PB Y PROCESS	————	REC Y PROCESS
- - - - -	PB C PROCESS	- - - - -	REC C PROCESS


TO/FROM SYSCON
IMAGE CTL
MESECAM H
SECAM H
FROM TUNER
B/W SW
TO OSD
VIDEO OUT
SECAM H
FROM I/O(MAIN)
VIDEO IN
TO/FROM SERVO
C-SYNC
V-LOCK
Fsc
SP H
SW 25Hz
ENV COMP
LP H
ROTARY SW
H'D AMP SW
FROM AUDIO
REC 12V
TO/FROM SYSCON
SEARCH H
TRICK H
LP TRICK H
ENV DET
TEST POINT
CTL PULSE
SW 25HZ
PB FM
GND
FROM POWER
PC 5V
PB 5V
REC 5V
CN3V01
FROM/TO PRE-AMP CN303
CN301
TO/FROM PRE-AMP CN302
W3V16
VIDEO OUT
W3V56
M/S P.H
W3V57
PB FM
W3V58
FM CARR. & DEV
VR3V03
CARRIER-ADJ
AGC-ADJ
VR3V04
VR3V02
DEV-ADJ
PB-Y ADJ
VR3V01
IC3V01 LA7397
IC3V02
MSM7403ARS
FL3V01
XT3V01
4.43MHZ
* CHIP PARTS

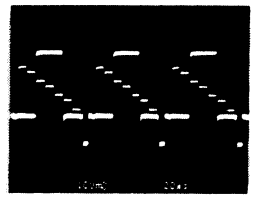
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

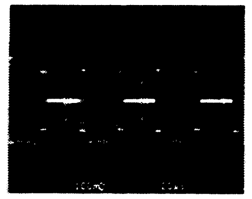
IC3V01							
MODE PIN NO	STOP	REC	PLAY	MODE PIN NO	STOP	REC	PLAY
1	-0.8/0.2	0	0/4	22	0	0	0
2	0	0	–	23	1.9/2.3	2.1	3.4
3	1.8/2.2	2	–	24	1.9/2.3	2.1	3.4
4	2.5/2.9	2.7	–	25	2.1/2.5	2.3	–
5	2.5/2.9	2.6	4.5	26	1.8/2.2	2	2
6	2.5/2.9	2.6	4.5	27	1.8/2.2	2	2
7	4.5/4.9	4.7	4.5	28	4.8/5.2	5.1	5.1
8	1.7/2.1	1.9	–	29	0	0.1	0.1
9	2/2.4	2.2	3.3	30	3.9/4.3	4.1	4.1
10	1.9/2.3	2.1	–	31	2.5/2.9	2.5	2.2/2.8
11	-0.8/0.2	0	0	32	4.1/4.5	4.3	0.2/4.8
12	1.2/2	1.8	–	33	-0.8/0.2	0.1	0.1
13	3/3.4	3.2	3.2	34	0.8/2.2	2.1	–
14	0.8/1.2	1	2.1	35	4.8/5.2	4.9	4.9
15	2.7/3.1	2.9	3	36	1.2/1.4	1.2	0.2/4.2
16	1.5/1.9	1.7	2.3	37	3/3.4	3.2	3.2
17	1.3/1.7	2.3	2.3	38	1.5/2	1.5	1.5
18	3/4.2	3.2/4.1	3.2/4.1	39	3/3.5	3.4	3/3.7
19	2.9/3.9	2.8/3.8	1.9/3.8	40	2.2/3.8	2.5/3.5	3.5
20	2/2.4	2.2	2.2	41	0/1.4	0/1.4	0/1.4
21	4.8/5.2	4.8/5.1	4.7/5.1	42	2.4/2.6	2.4	2.4



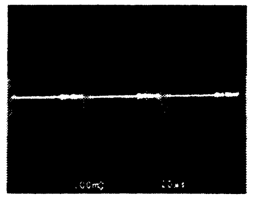
IC3V01-10
0.5Vp-p
E-E/REC



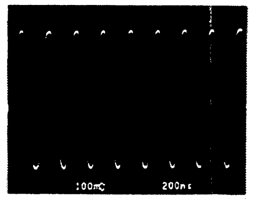
IC3V01-10
0.4Vp-p
PB



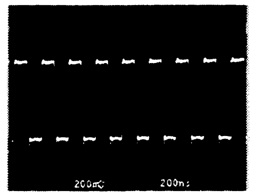
IC3V01-15
Burst - 170mVp-p
E-E/REC



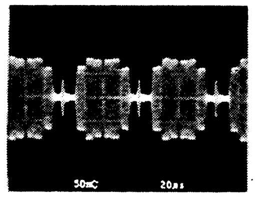
IC3V01-15
Burst - 70mVp-p
PB



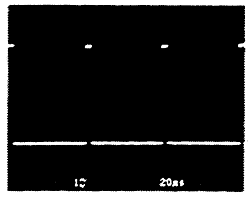
IC3V01-19
600mVp-p
E-E



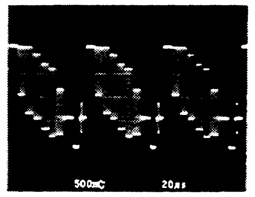
IC3V01-19
400mVp-p
PB



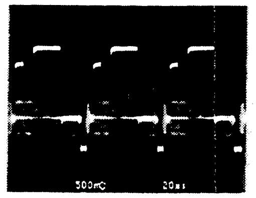
IC3V01-27
Burst - 80mVp-p
PB



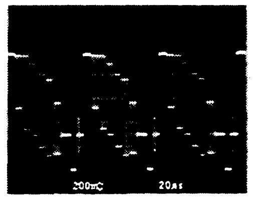
IC3V01-32
4.2Vp-p
PB/REC



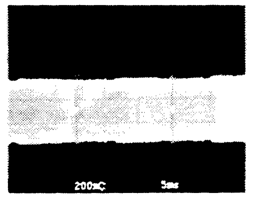
IC3V01-34
2.1Vp-p
E-E/REC



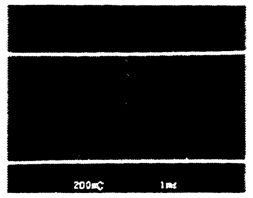
IC3V01-34
2.1Vp-p
PB



IC3V01-37
1.0Vp-p
E-E/REC

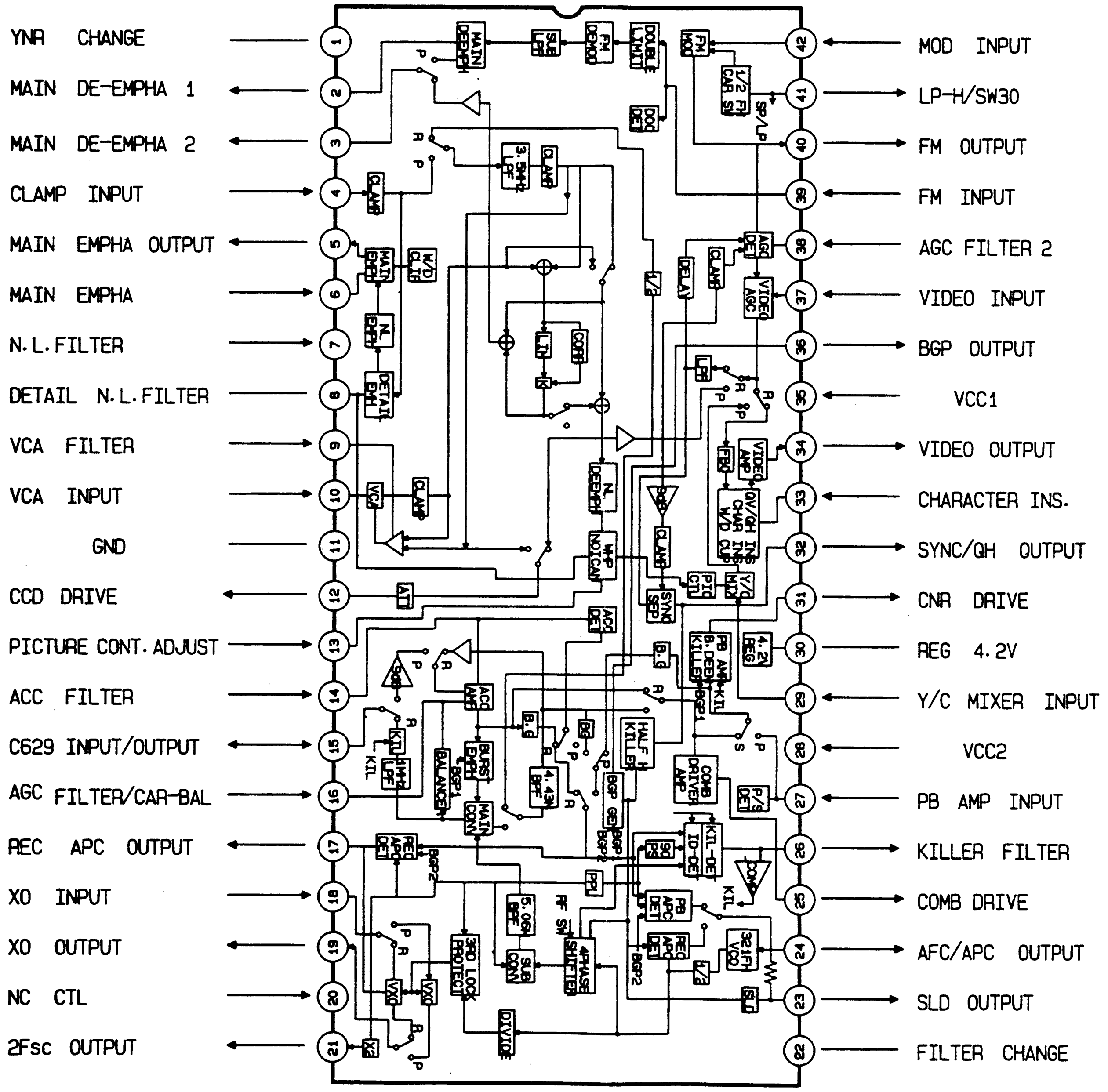


IC3V01-39
500mVp-p
PB



IC3V01-40
1.0Vp-p
E-E/REC

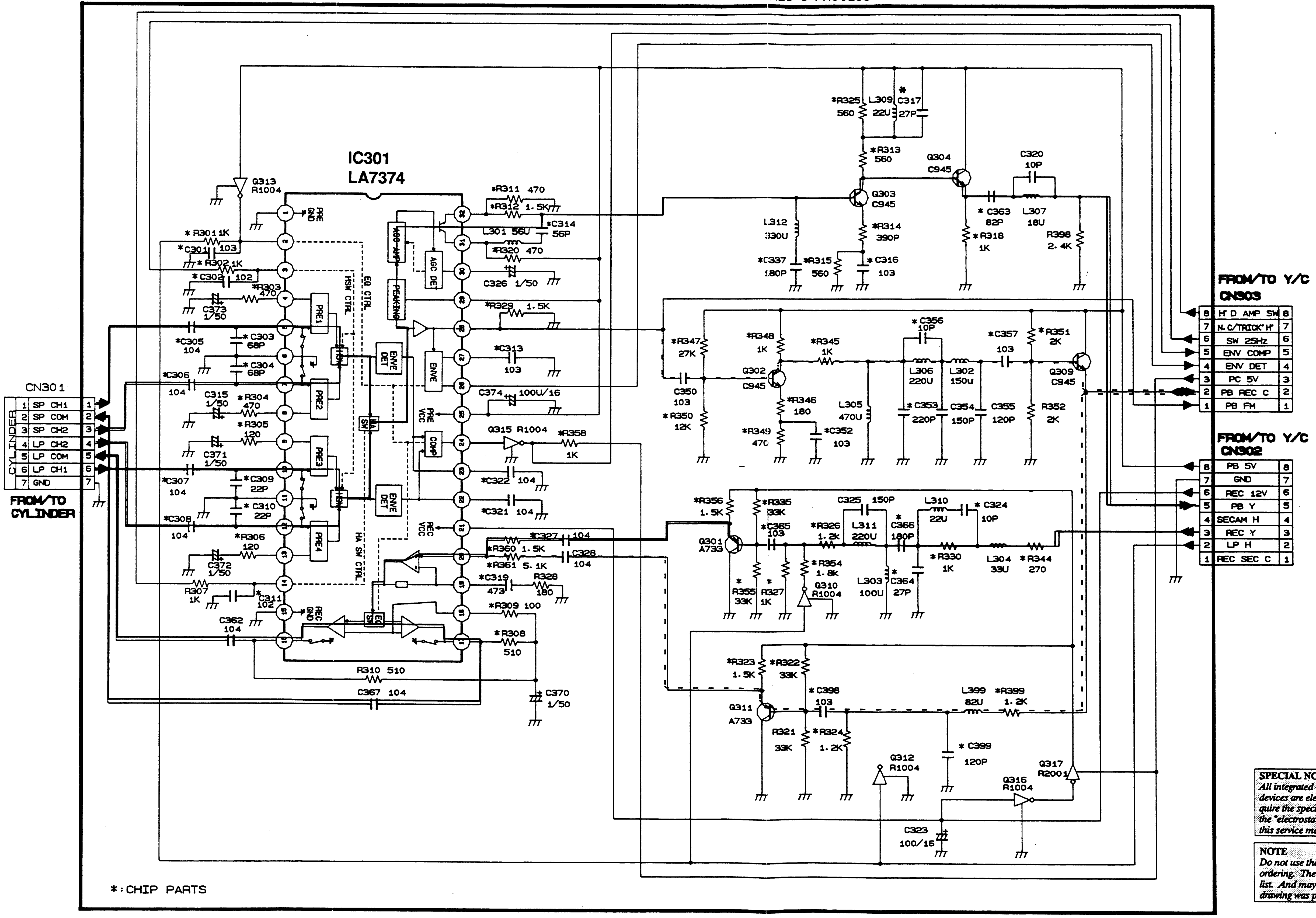
IC3V01 LA7397


YNR CHANGE
MAIN DE-EMPHA 1
MAIN DE-EMPHA 2
CLAMP INPUT
MAIN EMPHA OUTPUT
MAIN EMPHA
N.L.FILTER
DETAIL N.L.FILTER
VCA FILTER
VCA INPUT
GND
CCD DRIVE
PICTURE CONT. ADJUST
ACC FILTER
C629 INPUT/OUTPUT
AGC FILTER/CAR-BAL
REC APC OUTPUT
XO INPUT
XO OUTPUT
NC CTL
2Fsc OUTPUT
MOD INPUT
LP-H/SW30
FM OUTPUT
FM INPUT
AGC FILTER 2
VIDEO INPUT
BGP OUTPUT
VCC1
VIDEO OUTPUT
CHARACTER INS.
SYNC/QH OUTPUT
CNR DRIVE
REG 4.2V
Y/C MIXER INPUT
VCC2
PB AMP INPUT
KILLER FILTER
COMB DRIVE
AFC/APC OUTPUT
SLD OUTPUT
FILTER CHANGE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
MAIN DEEMPH
SUB LPF
FM DEMOD
DOUBLE LIMIT
FM MOD
1/2 FH CAR SW
SP/LP
DOC DET
3.5MHz LPF
CLAMP
CLAMP
MAIN EMPH
W/D CLIP
N.L EMPH
DETAIL EMPH
LIM
CORR
K
1/2
DELAY
CLAMP
AGC DET
VIDEO AGC
LPF
VIDEO AMP
FBC
QV/QH INS CHAR INS W/D CLIP
VCA
CLAMP
N.L DEEMPH
W.P NOICAN
6dB
CLAMP
SYNC SEP
PIC CTL
Y/C MIX
ATT
ACC DET
4.2V REG
PB AMP B.DEEM KILLER
B.G
ACC AMP
6dB
KIL
1MHz LPF
BALANCE
BURST EMPH
B.G
BG
4.43M BPF
HALF H KILLER
COMB DRIVER AMP
P/S DET
MAIN CONV
BGP GEN
BGP1
BGP2
KIL-DET
ID-DET
90 PS
COMB
PPU
REC APC DET
5.06M BPF
RF SW
PB APC DET
REC APC DET
321FH VCO
1/2
SLD
3RD LOCK PROTECT
SUB CONV
4PHASE SHIFTER
VXO
VXO
X2
DIVIDE
P
R
S
KIL

9-6. Pre-Amp

RED ——— PB Y PROCESS
------------ PB C PROCESS

BLUE ——— REC Y PROCESS
------------ REC C PROCESS

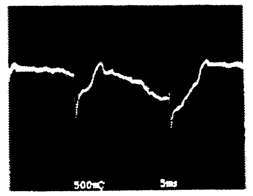

IC301
LA7374
CN301
CYLINDER
1 SP CH1
2 SP COM
3 SP CH2
4 LP CH2
5 LP COM
6 LP CH1
7 GND
FROM/TO CYLINDER
FROM/TO Y/C CN303
8 H' D AMP SW
7 N. C/TRICK' H'
6 SW 25Hz
5 ENV COMP
4 ENV DET
3 PC 5V
2 PB REC C
1 PB FM
FROM/TO Y/C CN302
8 PB 5V
7 GND
6 REC 12V
5 PB Y
4 SECAM H
3 REC Y
2 LP H
1 REC SEC C
PRE GND
REC GND
PRE1
PRE2
PRE3
PRE4
HSW
HSW CTRL
EQ CTRL
HA SW CTRL
PEAKING
AGC DET
ENVE DET
ENVE
PRE VCC
REC VCC
COMP
HA SW
EQ SW
Q313 R1004
Q315 R1004
Q303 C945
Q304 C945
Q302 C945
Q309 C945
Q301 A733
Q311 A733
Q310 R1004
Q312 R1004
Q316 R1004
Q317 R2001

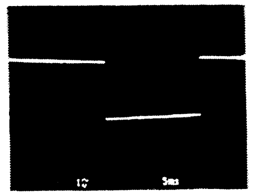
*: CHIP PARTS

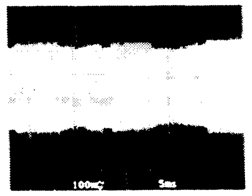
SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

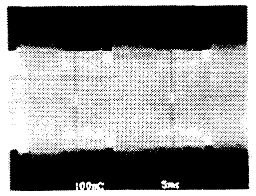
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

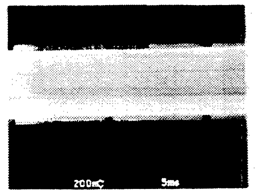
IC301			
MODE / PIN NO	STOP	REC	PLAY
1	5.0	5.0	5.0
2	5.0	5.0	5.0
3	1.2	0	3.6
4	2.8	2.8	2.8
5	0	0	0
6	0	0/2.6	0/2.6
7	1.6	4.6	1.6
8	0	0	0
9	3.6	3.4	3.6
10	0.8	0	1.0
11	2.5	4.0	2.5
12	1.8	1.7	1.8
13	0	2.0	0
14	1.6	2.0	1.6
15	1.6	1.6	1.6
16	0	0	0
17	0	4.0	0
18	0.7	0	0.7
19	0	0	0
20	0	4.0	0
21	0	4.0	0
22	0.7	0	0.7
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0

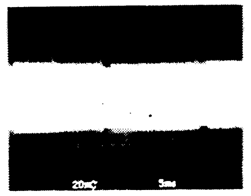

IC301-3
DC 3.5V
PB

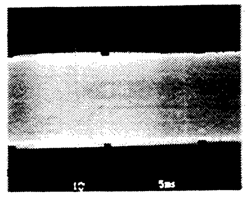

IC301-6
2.5Vp-p
PB


IC301-7
300mVp-p
PB

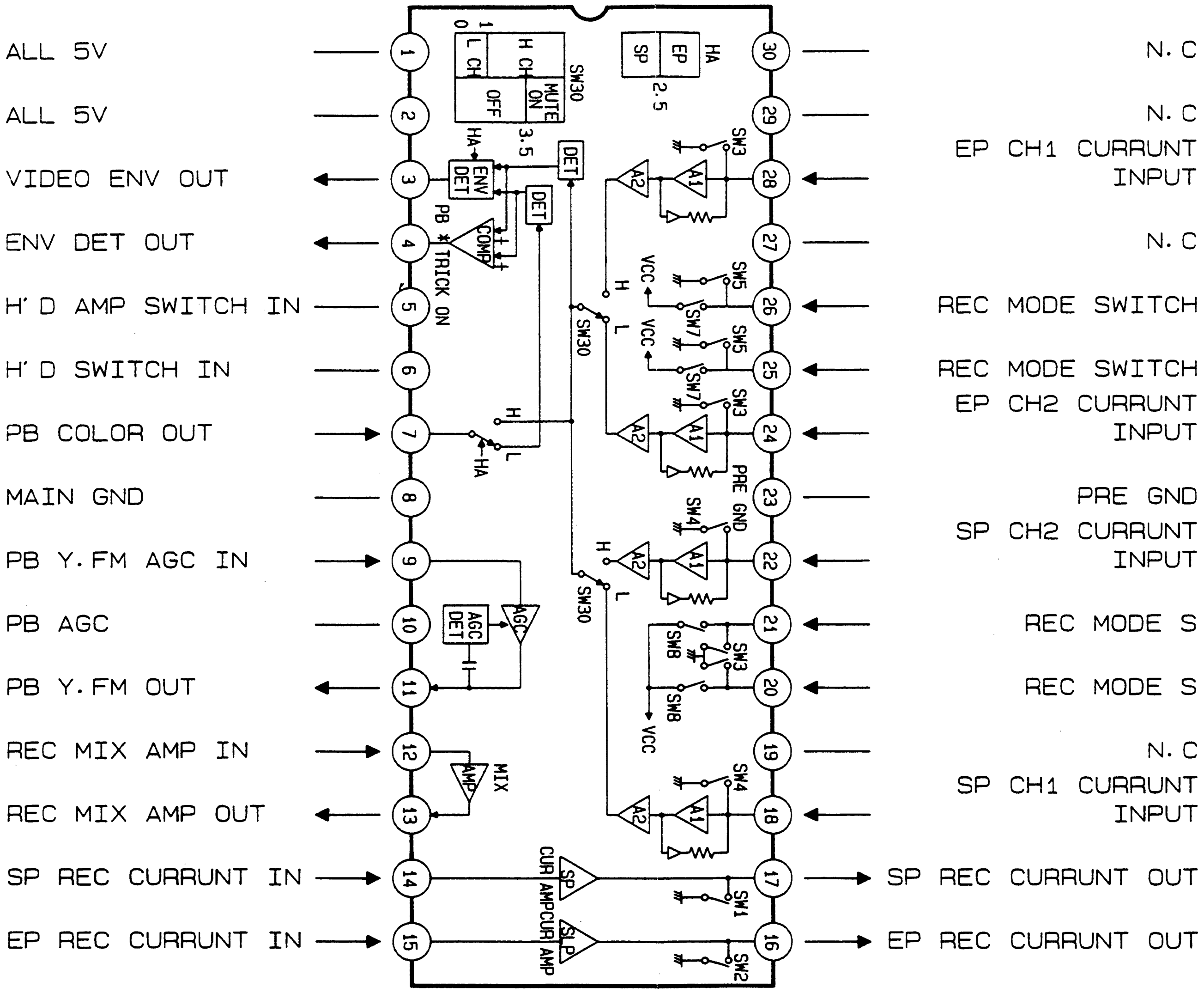

IC301-11
400mVp-p
PB


IC301-13
0.6Vp-p
REC


IC301-14
60mVp-p
REC

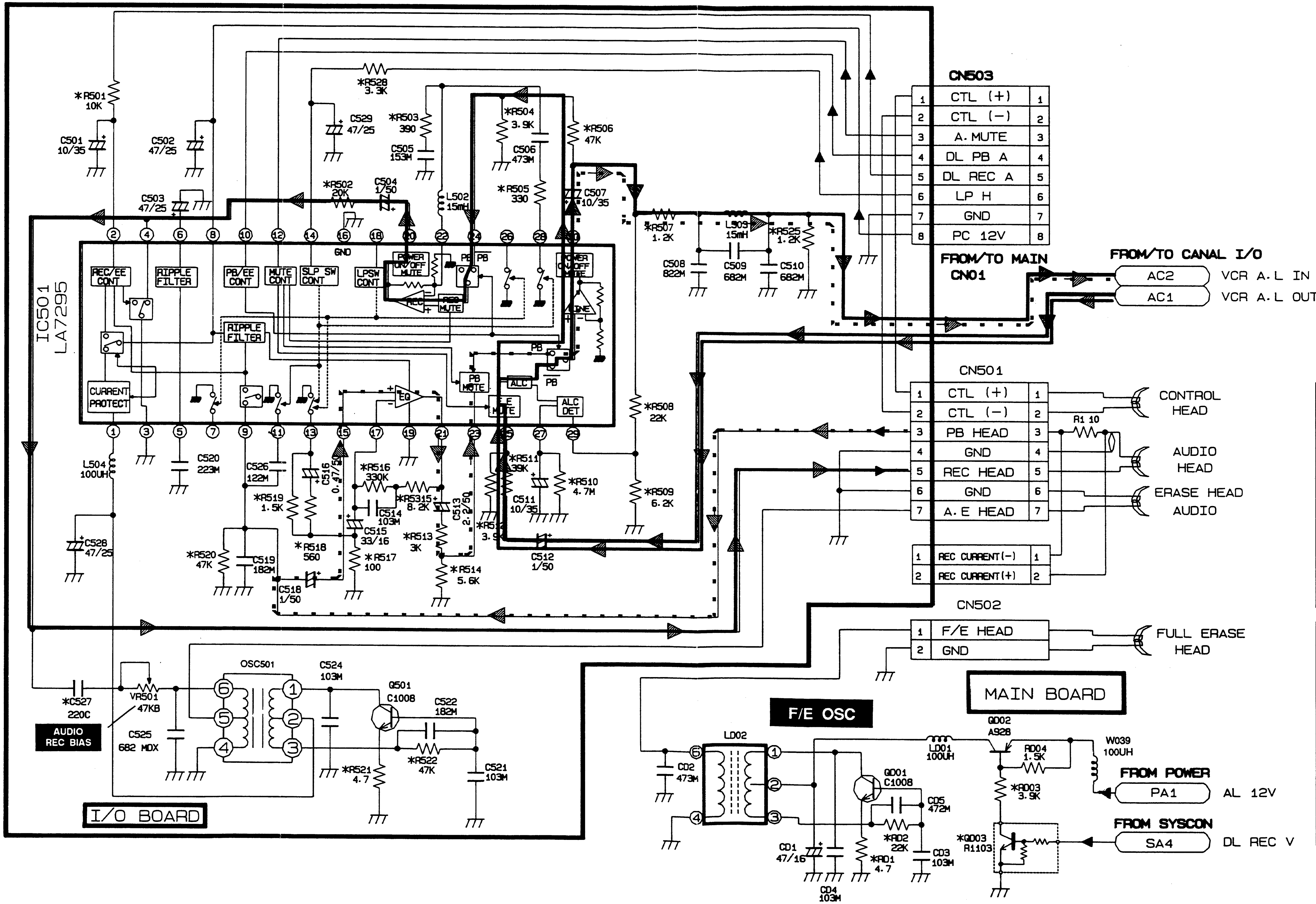

IC301-17
3.6Vp-p
REC

IC301 LA7374


ALL 5V
ALL 5V
VIDEO ENV OUT
ENV DET OUT
H' D AMP SWITCH IN
H' D SWITCH IN
PB COLOR OUT
MAIN GND
PB Y.FM AGC IN
PB AGC
PB Y.FM OUT
REC MIX AMP IN
REC MIX AMP OUT
SP REC CURRUNT IN
EP REC CURRUNT IN
N.C
N.C
EP CH1 CURRUNT INPUT
N.C
REC MODE SWITCH
REC MODE SWITCH
EP CH2 CURRUNT INPUT
PRE GND
SP CH2 CURRUNT INPUT
REC MODE S
REC MODE S
N.C
SP CH1 CURRUNT INPUT
SP REC CURRUNT OUT
EP REC CURRUNT OUT
1
0
H CH
L CH
MUTE ON
OFF
SW30
3.5
HA
EP
SP
2.5
HA
ENV DET
DET
DET
COMP
PB
TRICK ON
H
L
HA
SW30
AGC DET
AGC
MIX AMP
SP
SLP
CUR AMP
CUR AMP
A1
A2
SW1
SW2
SW3
SW4
SW5
SW7
SW8
VCC
PRE GND

9-7. Audio

RED ——— PB PROCESS
- - - - - REC PROCESS
BLUE ——— EE PROCESS


IC501
LA7295
REC/EE CONT
RIPPLE FILTER
PB/EE CONT
MUTE CONT
SLP SW CONT
LPSW CONT
POWER ON/OFF MUTE
REC MUTE
PB
REC
RIPPLE FILTER
CURRENT PROTECT
EQ
PB MUTE
EE MUTE
ALC
ALC DET
TONE
GND
*R501 10K
C501 10/35
C502 47/25
C503 47/25
*R528 3.3K
C529 47/25
*R503 390
C505 153M
*R502 20K
C504 1/50
L502 15mH
*R504 3.9K
C506 473M
*R505 330
*R506 47K
C507 10/35
*R507 1.2K
L503 15mH
*R525 1.2K
C508 822M
C509 682M
C510 682M
L504 100UH
C520 223M
C526 122M
C516 0.47/50
*R516 330K
*R515 8.2K
C513 2.2/50
*R511 39K
*R510 4.7M
C511 10/35
*R508 22K
*R509 6.2K
*R519 1.5K
C514 103M
C515 33/16
*R513 3K
*R512 3.9
C512 1/50
C528 47/25
*R520 47K
C519 182M
*R518 560
*R517 100
*R514 5.6K
C518 1/50
*C527 220C
VR501 47KB
AUDIO REC BIAS
C525 682 MDX
OSC501
C524 103M
Q501 C1008
C522 182M
*R521 4.7
*R522 47K
C521 103M
I/O BOARD
CN503
1 CTL (+) 1
2 CTL (−) 2
3 A. MUTE 3
4 DL PB A 4
5 DL REC A 5
6 LP H 6
7 GND 7
8 PC 12V 8
FROM/TO MAIN CN01
FROM/TO CANAL I/O
AC2 VCR A.L IN
AC1 VCR A.L OUT
CN501
1 CTL (+) 1
2 CTL (−) 2
3 PB HEAD 3
4 GND 4
5 REC HEAD 5
6 GND 6
7 A.E HEAD 7
R1 10
CONTROL HEAD
AUDIO HEAD
ERASE HEAD AUDIO
1 REC CURRENT(−) 1
2 REC CURRENT(+) 2
CN502
1 F/E HEAD
2 GND
FULL ERASE HEAD
MAIN BOARD
F/E OSC
LD02
CD2 473M
LD01 100UH
QD01 C1008
CD5 472M
*RD2 22K
*RD1 4.7
CD3 103M
CD1 47/16
CD4 103M
QD02 A928
RD04 1.5K
*RD03 3.9K
*QD03 R1103
W039 100UH
FROM POWER
PA1 AL 12V
FROM SYSCON
SA4 DL REC V

*CHIP PARTS

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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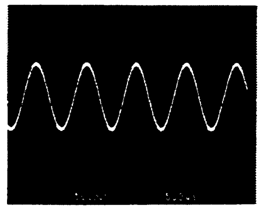
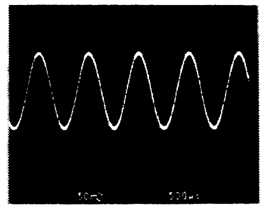
IC501

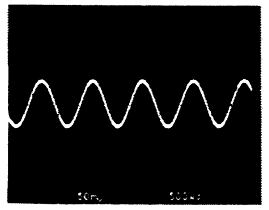
MODE / PIN NO	STOP	REC	PLAY
PIN 1	0	0	0
PIN 2	0	0	0
PIN 3	0	0	0
PIN 4	0	0	0
PIN 5	0	0	0
PIN 6	0.6	0.6	0.6
PIN 7	0	0	0
PIN 8	3.3	3.3	3.3
PIN 9	3.7	3.7	3.7
PIN 10	0.6	0.6	0
PIN 11	3.7	3.7	3.7
PIN 12	0	0	0
PIN 13	3.7	3.7	3.7
PIN 14	0	0	0
PIN 15	0	0	0
PIN 16	1.5	1.5	1.5
PIN 17	4.2	4.2	4.2
PIN 18	9.1	9.1	9.1
PIN 19	12.0	12.0	12.0
PIN 20	0	0	0
PIN 21	0	0	0
PIN 22	0	0	0
PIN 23	4.8	4.8	0
PIN 24	0	5.1	0



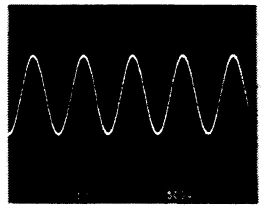
IC501-20
1.3Vp-p
REC-



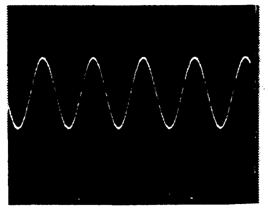
IC501-21
150mVp-p
PB



IC501-25
100mVp-p
REC/EE

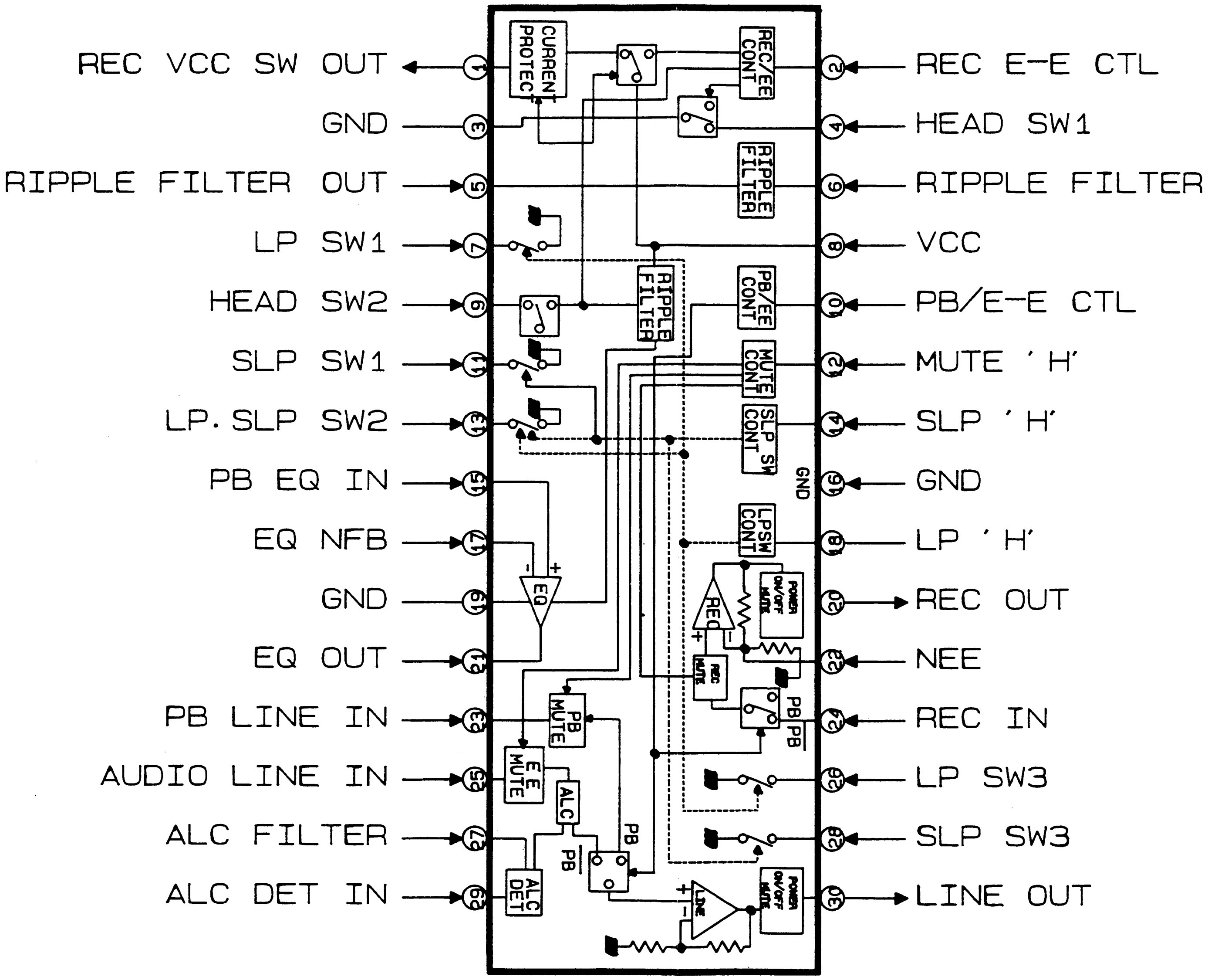


IC501-30
3Vp-p
PB

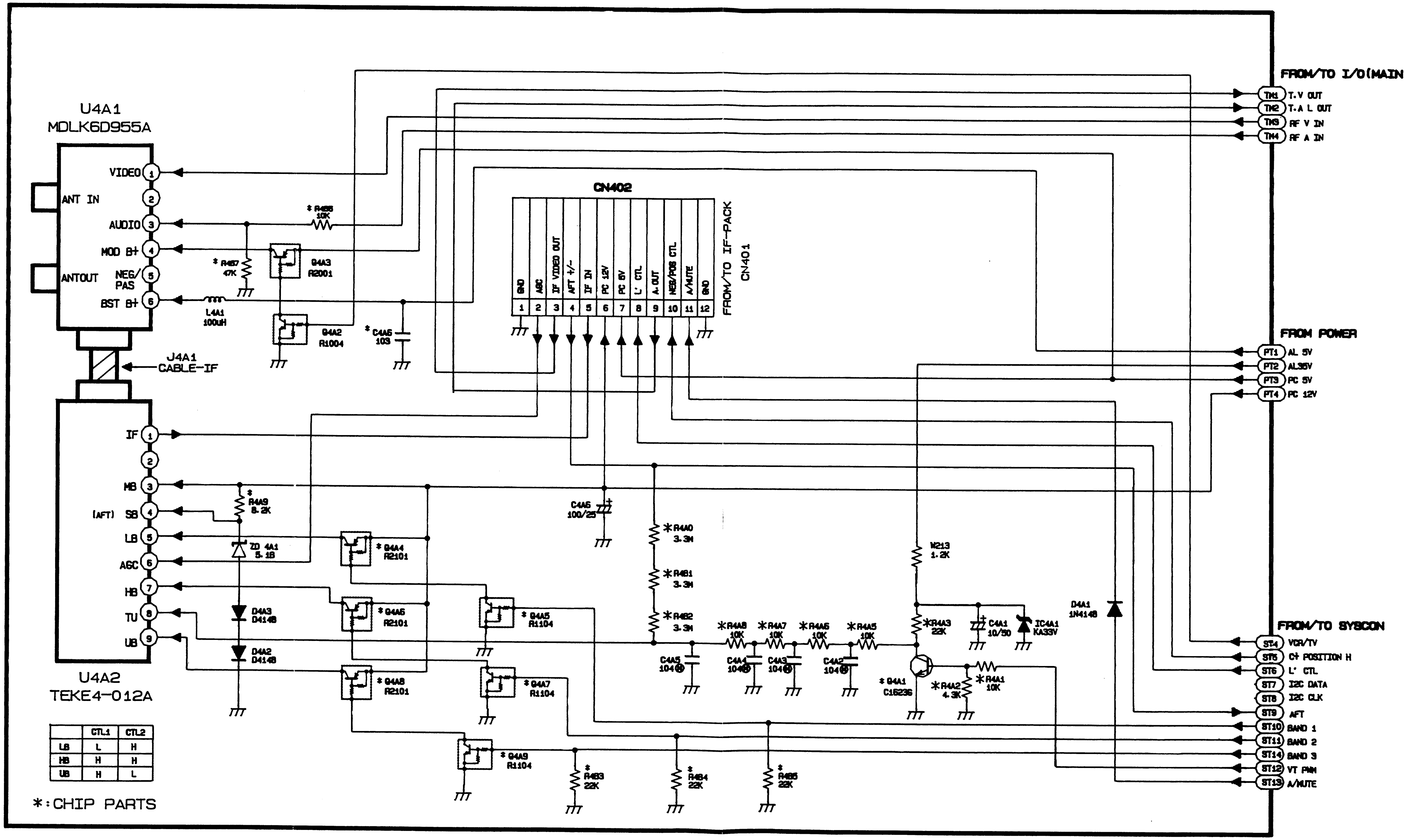


IC501-30
2.8Vp-p
REC/EE

IC501 LA7295


REC VCC SW OUT
GND
RIPPLE FILTER OUT
LP SW1
HEAD SW2
SLP SW1
LP. SLP SW2
PB EQ IN
EQ NFB
GND
EQ OUT
PB LINE IN
AUDIO LINE IN
ALC FILTER
ALC DET IN
REC E-E CTL
HEAD SW1
RIPPLE FILTER
VCC
PB/E-E CTL
MUTE 'H'
SLP 'H'
GND
LP 'H'
REC OUT
NEE
REC IN
LP SW3
SLP SW3
LINE OUT
CURRENT PROTECT
REC/EE CONT
RIPPLE FILTER
RIPPLE FILTER
PB/EE CONT
MUTE CONT
SLP SW CONT
GND
LPSW CONT
EQ
REC
POWER ON/OFF MUTE
REC MUTE
PB
PB MUTE
E-E MUTE
ALC
PB
ALC DET
LINE
POWER ON/OFF MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

9-8. Tuner


U4A1
MDLK6D955A
VIDEO
ANT IN
AUDIO
MOD B+
ANTOUT
NEG/PAS
BST B+
1
2
3
4
5
6
* R455 10K
* R457 47K
Q4A3 R2001
L4A1 100uH
Q4A2 R1004
* C4A6 103
J4A1
CABLE-IF
CN402
GND
AGC
IF VIDEO OUT
AFT +/-
IF IN
PC 12V
PC 5V
L' CTL
A.OUT
NEG/POS CTL
A/MUTE
GND
1 2 3 4 5 6 7 8 9 10 11 12
FROM/TO IF-PACK
CN401
FROM/TO I/O(MAIN)
TM1 T.V OUT
TM2 T.A L OUT
TM3 RF V IN
TM4 RF A IN
FROM POWER
PT1 AL 5V
PT2 AL35V
PT3 PC 5V
PT4 PC 12V
IF
MB
(AFT) SB
LB
AGC
HB
TU
UB
1
2
3
4
5
6
7
8
9
U4A2
TEKE4-012A
* R4A9 8.2K
ZD 4A1 5.1B
D4A3 D4148
D4A2 D4148
* Q4A4 R2101
* Q4A6 R2101
* Q4A8 R2101
* Q4A5 R1104
* Q4A7 R1104
* Q4A9 R1104
C4A6 100/25
* R483 22K
* R484 22K
* R485 22K
*R4A0 3.3M
*R481 3.3M
*R482 3.3M
*R4A8 10K
*R4A7 10K
*R4A6 10K
*R4A5 10K
C4A5 104
C4A4 104
C4A3 104
C4A2 104
W213 1.2K
*R4A3 22K
C4A1 10/50
IC4A1 KA33V
D4A1 1N4148
* Q4A1 C1623G
*R4A2 4.3K
*R4A1 10K
FROM/TO SYSCON
ST4 VCR/TV
ST5 C+ POSITION H
ST6 L' CTL
ST7 I2C DATA
ST8 I2C CLK
ST9 AFT
ST10 BAND 1
ST11 BAND 2
ST14 BAND 3
ST12 VT PWM
ST13 A/MUTE
*:CHIP PARTS

	CTL1	CTL2
LB	L	H
HB	H	H
UB	H	L

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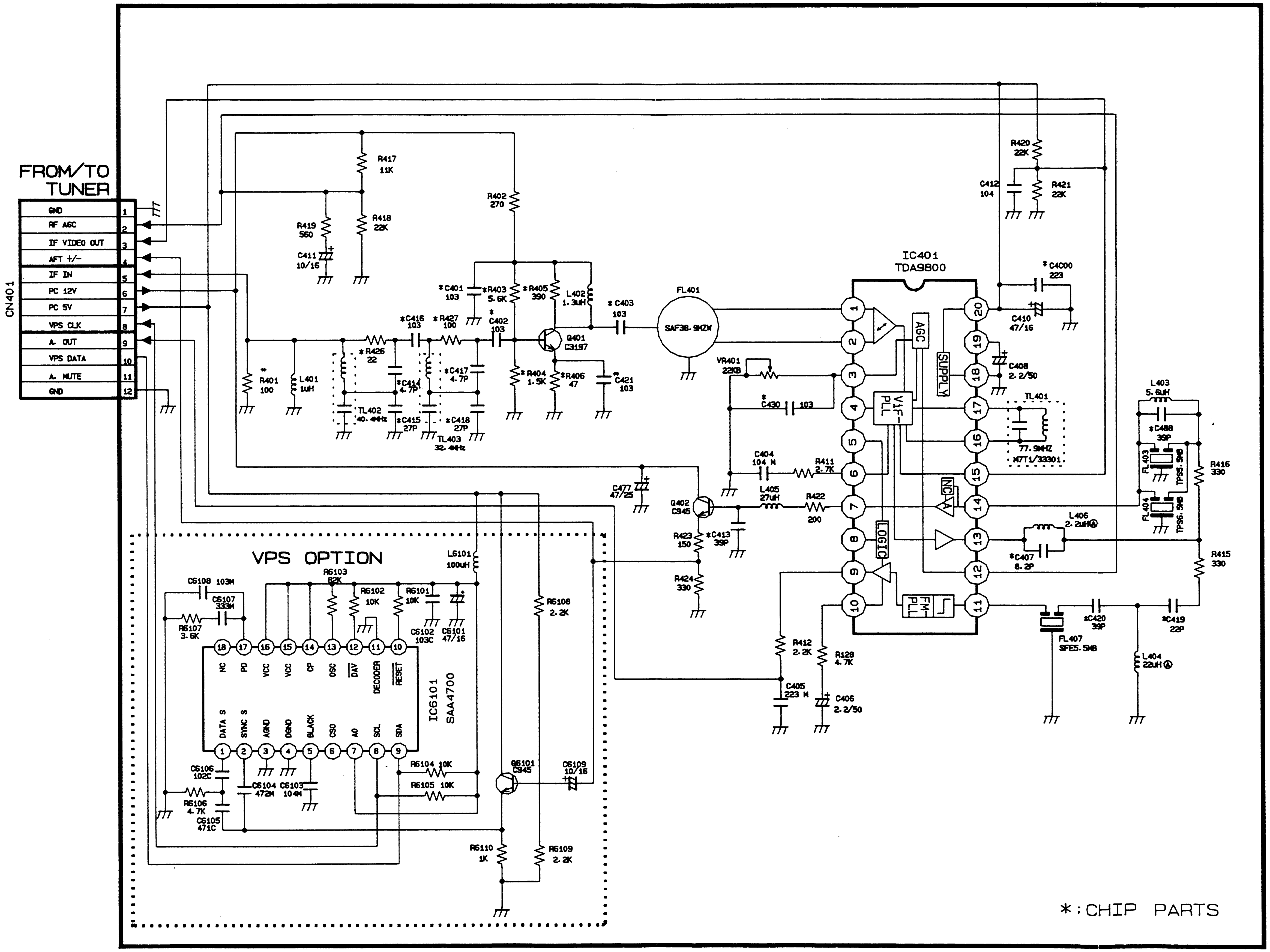
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

9-9. IF


FROM/TO TUNER
CN401
1 GND
2 RF AGC
3 IF VIDEO OUT
4 AFT +/-
5 IF IN
6 PC 12V
7 PC 5V
8 VPS CLK
9 A. OUT
10 VPS DATA
11 A. MUTE
12 GND
R417 11K
R418 22K
R419 560
C411 10/16
R402 270
*C401 103
*R403 5.6K
*R405 390
L402 1.3uH
*C403 103
*C402 103
Q401 C3197
*C416 103
*R427 100
*R426 22
*C414 4.7P
*C417 4.7P
*C415 27P
*C418 27P
TL402 40.4MHz
TL403 32.4MHz
*R401 100
L401 1uH
*R404 1.5K
*R406 47
*C421 103
FL401
SAF38.9MZW
IC401
TDA9800
AGC
SUPPLY
VIF-PLL
LOGIC
NOVA
FM-PLL
VR401 22KB
*C430 103
C404 104 M
R411 2.7K
L405 27uH
R422 200
C477 47/25
Q402 C945
R423 150
*C413 39P
R424 330
R412 2.2K
R128 4.7K
C405 223 M
C406 2.2/50
R420 22K
R421 22K
C412 104
*C4C00 223
C410 47/16
C408 2.2/50
TL401
77.9MHZ
M7T1/33301
L403 5.6uH
*C488 39P
FL403 TPS5.5MB
FL404 TPS6.5MB
R416 330
L406 2.2uH
*C407 8.2P
R415 330
*C420 39P
*C419 22P
FL407 SFE5.5MB
L404 22uH
VPS OPTION
L6101 100uH
C6108 103M
C6107 333M
R6107 3.6K
R6103 82K
R6102 10K
R6101 10K
C6102 103C
C6101 47/16
R6108 2.2K
IC6101
SAA4700
NC
PD
VCC
VCC
CP
OSC
DAV
DECODER
RESET
DATA S
SYNC S
AGND
DGND
BLACK
CS0
A0
SCL
SDA
C6106 102C
C6104 472M
C6103 104M
R6106 4.7K
C6105 471C
R6104 10K
R6105 10K
Q6101 C945
C6109 10/16
R6110 1K
R6109 2.2K
*:CHIP PARTS

NOTE
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SPECIAL NOTE
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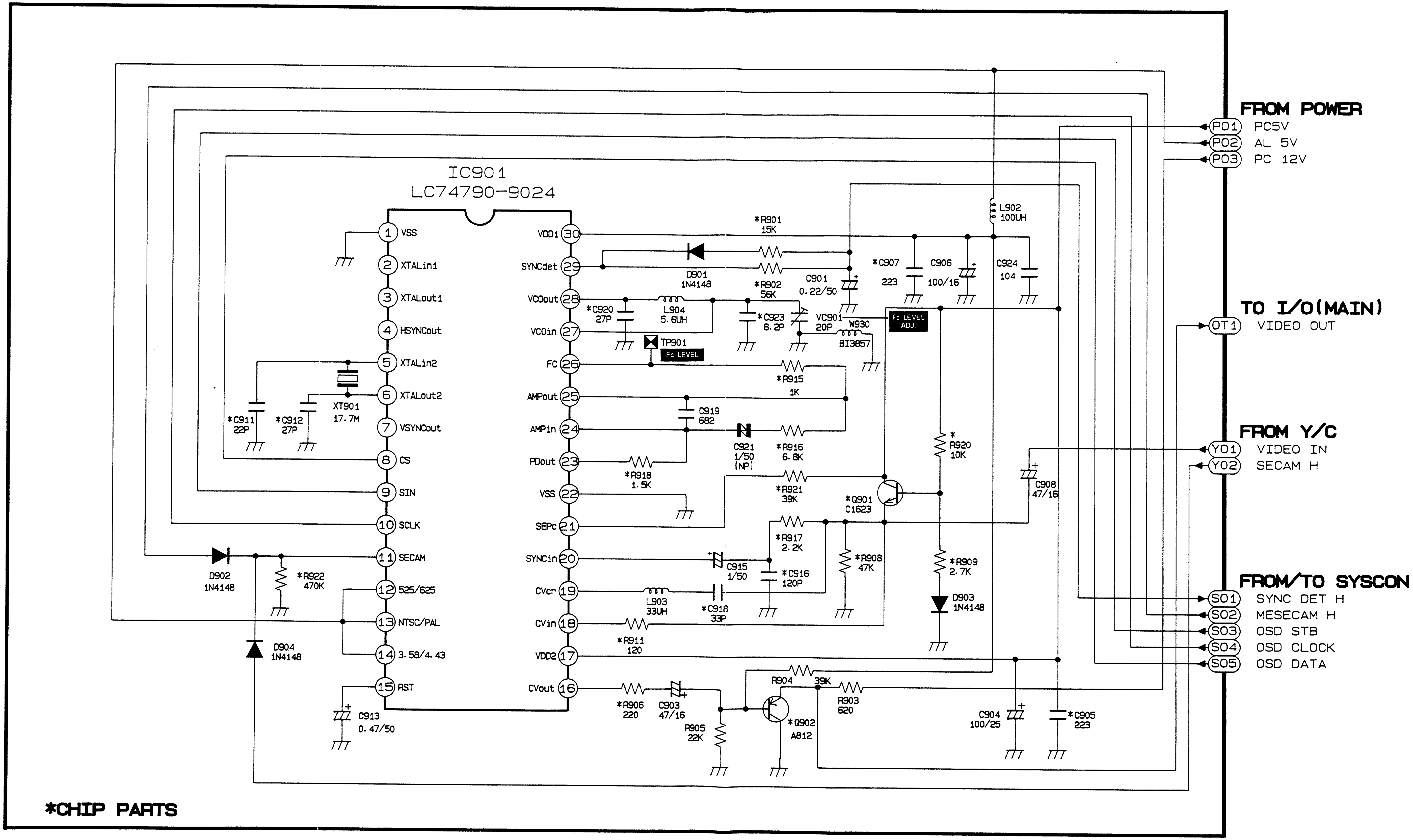
9-10. O.S.D


IC901
LC74790-9024
VSS
XTALin1
XTALout1
HSYNCout
XTALin2
XTALout2
VSYNCout
CS
SIN
SCLK
SECAM
525/625
NTSC/PAL
3.58/4.43
RST
VDD1
SYNCdet
VCOout
VCOin
FC
AMPout
AMPin
PDout
VSS
SEPc
SYNCin
CVcr
CVin
VDD2
CVout
*R901 15K
D901 1N4148
*R902 56K
C901 0.22/50
*C907 223
C906 100/16
C924 104
L902 100UH
*C920 27P
L904 5.6UH
*C923 8.2P
VC901 20P
W930 BI3857
Fc LEVEL ADJ.
TP901
Fc LEVEL
*R915 1K
C919 682
C921 1/50 (NP)
*R916 6.8K
*R918 1.5K
*R921 39K
*Q901 C1623
*R920 10K
C908 47/16
*R917 2.2K
*R908 47K
*R909 2.7K
C915 1/50
*C916 120P
D903 1N4148
L903 33UH
*C918 33P
*R911 120
R904 39K
R903 620
*R906 220
C903 47/16
R905 22K
*Q902 A812
C904 100/25
*C905 223
XT901 17.7M
*C911 22P
*C912 27P
D902 1N4148
*R922 470K
D904 1N4148
C913 0.47/50
FROM POWER
P01 PC5V
P02 AL 5V
P03 PC 12V
TO I/O(MAIN)
OT1 VIDEO OUT
FROM Y/C
Y01 VIDEO IN
Y02 SECAM H
FROM/TO SYSCON
S01 SYNC DET H
S02 MESECAM H
S03 OSD STB
S04 OSD CLOCK
S05 OSD DATA

***CHIP PARTS**

SPECIAL NOTE
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NOTE
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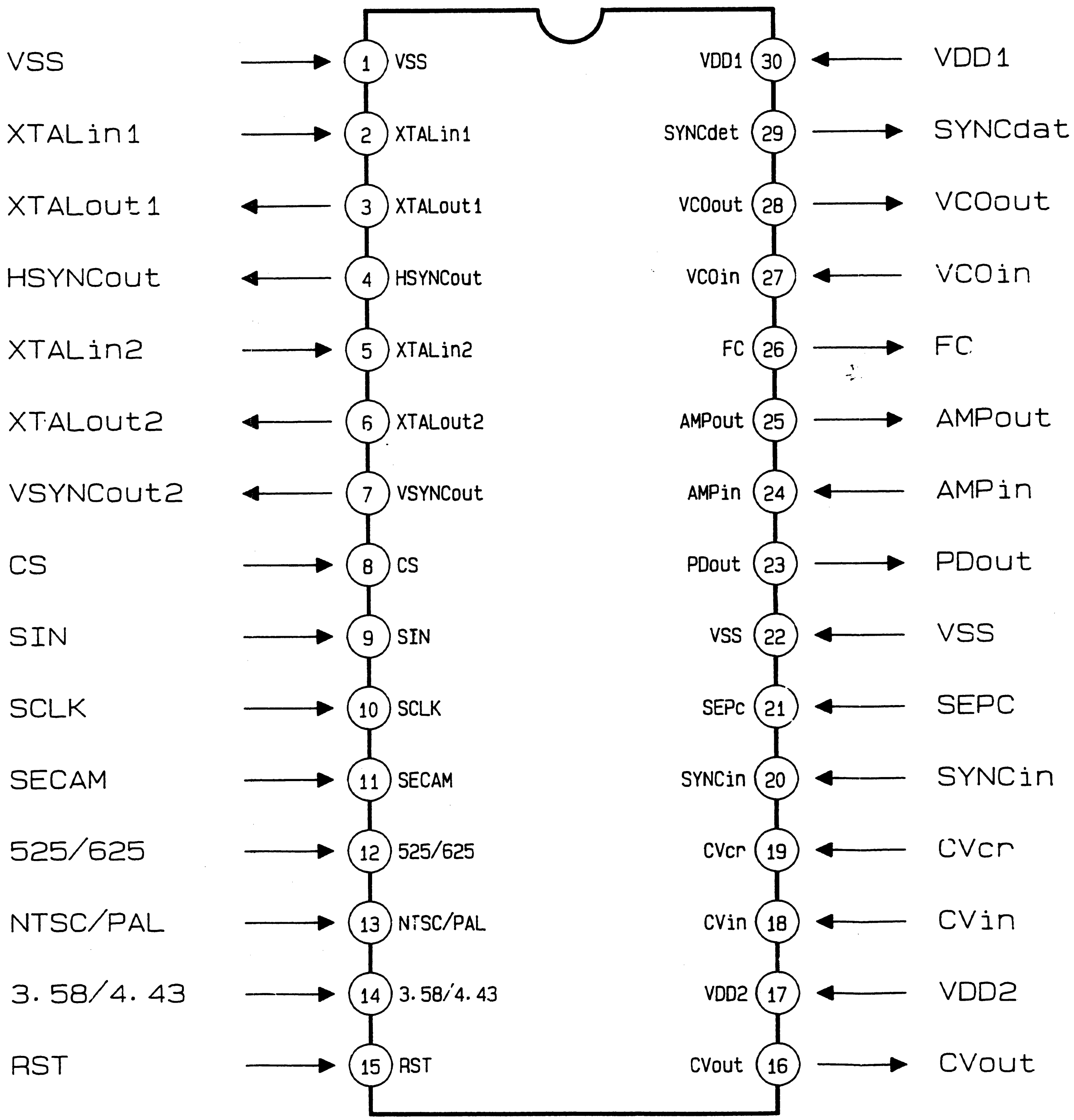
IC901		
MODE / PIN NO	SIGNAL OUT	BLUE OUT
1	0	0
2	4.6	4.6
3	5.2	5.2
4	0/5.2	0/5.2
5	2/2.5	2/2.5
6	2/3.1	2/3.1
7	0/5.2	0/5.2
8	5.1	5.1
9	0	0
10	5.1	5.1
11	5.2	5.2
12	5.2	5.2
13	5.2	5.2
14	5.2	5.2
15	5.2	5.2
16	–	–
17	5	5
18	–	1.2
19	–	0
20	1.9/4	0
21	2	2
22	0	0
23	0.2/5	0.1/5.1
24	2/2.6	1.1/4.3
25	2.9/3.8	-0.2/5.2
26	3/3.6	1.1/3.2
27	1.2/3.4	1.1/3.2
28	1.2/3.4	1.1/3.2
29	5/5.5	0/5.2
30	5/5.6	5.2

IC901 LC74790-9024


VSS
XTALin1
XTALout1
HSYNCout
XTALin2
XTALout2
VSYNCout2
CS
SIN
SCLK
SECAM
525/625
NTSC/PAL
3.58/4.43
RST
1 VSS
2 XTALin1
3 XTALout1
4 HSYNCout
5 XTALin2
6 XTALout2
7 VSYNCout
8 CS
9 SIN
10 SCLK
11 SECAM
12 525/625
13 NTSC/PAL
14 3.58/4.43
15 RST
VDD1 30
SYNCdet 29
VCOout 28
VCOin 27
FC 26
AMPout 25
AMPin 24
PDout 23
VSS 22
SEPc 21
SYNCin 20
CVcr 19
CVin 18
VDD2 17
CVout 16
VDD1
SYNCdat
VCOout
VCOin
FC
AMPout
AMPin
PDout
VSS
SEPC
SYNCin
CVcr
CVin
VDD2
CVout

9-11. I/O

SPECIAL NOTE
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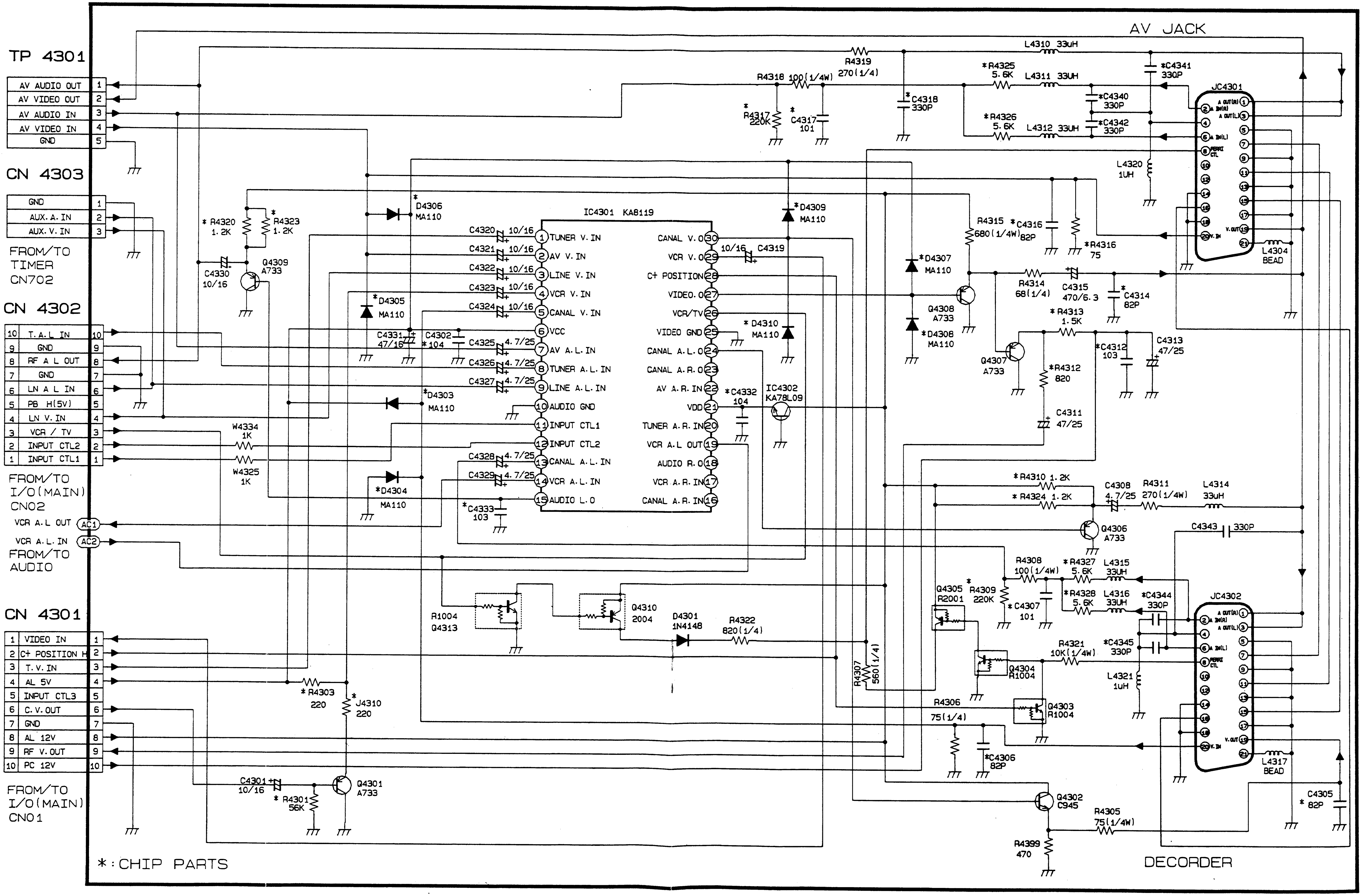
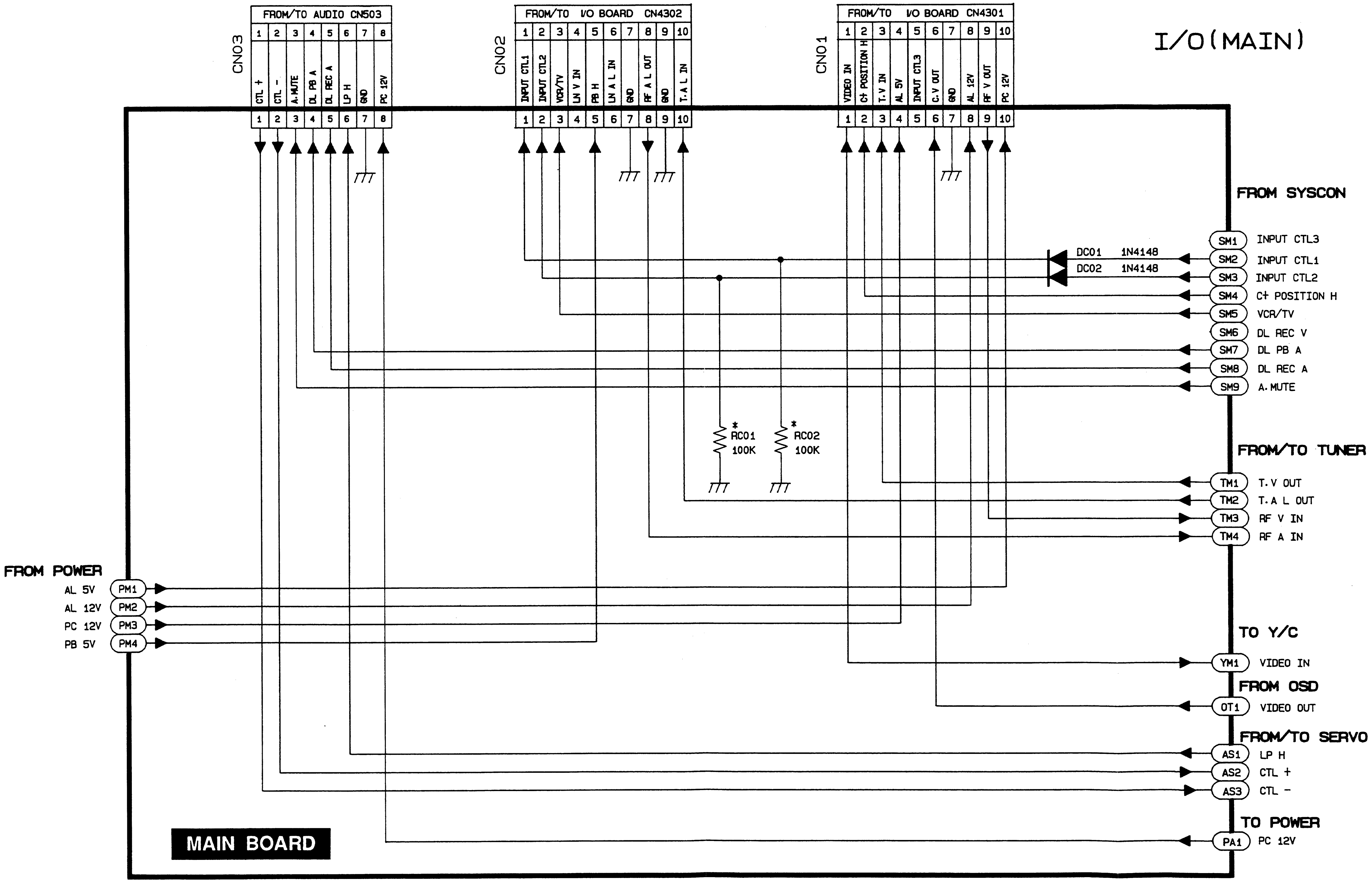
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.


AV JACK
TP 4301
AV AUDIO OUT
AV VIDEO OUT
AV AUDIO IN
AV VIDEO IN
GND
CN 4303
GND
AUX. A. IN
AUX. V. IN
FROM/TO TIMER CN702
CN 4302
T. A. L IN
GND
RF A L OUT
GND
LN A L IN
PB H(5V)
LN V. IN
VCR / TV
INPUT CTL2
INPUT CTL1
FROM/TO I/O(MAIN) CN02
VCR A. L OUT
VCR A. L. IN
FROM/TO AUDIO
CN 4301
VIDEO IN
C+ POSITION H
T. V. IN
AL 5V
INPUT CTL3
C. V. OUT
GND
AL 12V
RF V. OUT
PC 12V
FROM/TO I/O(MAIN) CN01
IC4301 KA8119
TUNER V. IN
AV V. IN
LINE V. IN
VCR V. IN
CANAL V. IN
VCC
AV A. L. IN
TUNER A. L. IN
LINE A. L. IN
AUDIO GND
INPUT CTL1
INPUT CTL2
CANAL A. L. IN
VCR A. L. IN
AUDIO L. O
CANAL V. O
VCR V. O
C+ POSITION
VIDEO. O
VCR/TV
VIDEO GND
CANAL A. L. O
CANAL A. R. O
AV A. R. IN
VDD
TUNER A. R. IN
VCR A. L OUT
AUDIO R. O
VCR A. R. IN
CANAL A. R. IN
IC4302 KA78L09
JC4301
JC4302
Q4301 A733
Q4302 C945
Q4303 R1004
Q4304 R1004
Q4305 R2001
Q4306 A733
Q4307 A733
Q4308 A733
Q4309 A733
Q4310 2004
Q4313 R1004
D4301 1N4148
D4303 MA110
D4304 MA110
D4305 MA110
D4306 MA110
D4307 MA110
D4308 MA110
D4309 MA110
D4310 MA110
L4304 BEAD
L4317 BEAD
L4310 33uH
L4311 33uH
L4312 33uH
L4314 33uH
L4315 33uH
L4316 33uH
L4320 1uH
L4321 1uH
R4319 270(1/4)
R4318 100(1/4W)
R4317 220K
C4317 101
C4318 330P
R4325 5.6K
R4326 5.6K
C4340 330P
C4341 330P
C4342 330P
R4315 680(1/4W)
C4316 82P
R4316 75
R4314 68(1/4)
C4315 470/6.3
C4314 82P
R4313 1.5K
C4312 103
C4313 47/25
R4312 820
C4311 47/25
R4320 1.2K
R4323 1.2K
C4330 10/16
W4334 1K
W4325 1K
C4320 10/16
C4321 10/16
C4322 10/16
C4323 10/16
C4324 10/16
C4331 47/16
C4302 104
C4325 4.7/25
C4326 4.7/25
C4327 4.7/25
C4328 4.7/25
C4329 4.7/25
C4333 103
C4319 10/16
C4332 104
R4310 1.2K
R4324 1.2K
C4308 4.7/25
R4311 270(1/4W)
C4343 330P
R4308 100(1/4W)
R4327 5.6K
R4328 5.6K
R4309 220K
C4307 101
C4344 330P
C4345 330P
R4321 10K(1/4W)
R1004
R4322 820(1/4)
R4307 560(1/4)
R4306 75(1/4)
C4306 82P
R4305 75(1/4W)
R4399 470
C4305 82P
R4303 220
J4310 220
C4301 10/16
R4301 56K
*:CHIP PARTS
DECORDER

9-12. I/O Main

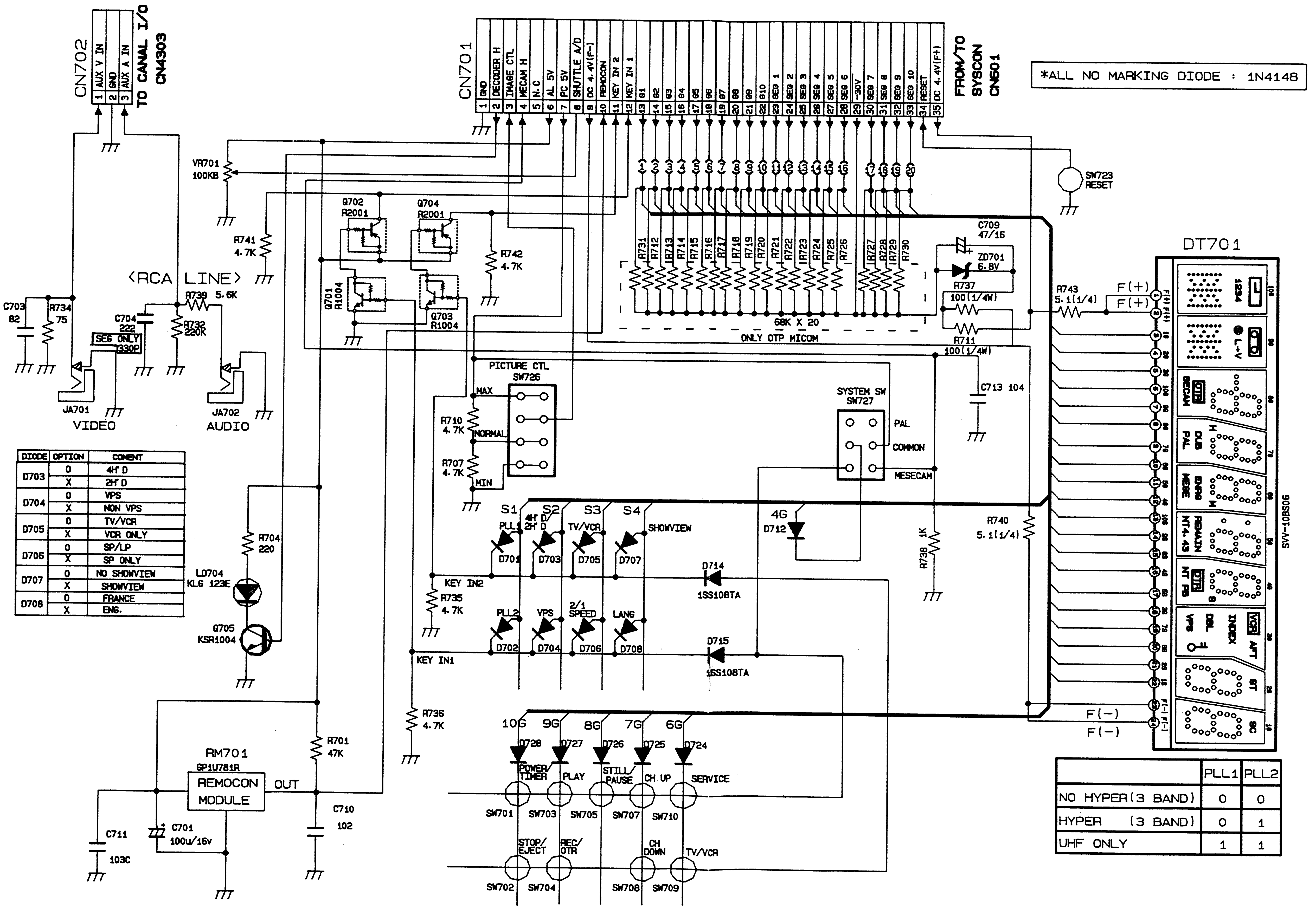

I/O(MAIN)
CN03
FROM/TO AUDIO CN503
1 CTL +
2 CTL -
3 A.MUTE
4 DL PB A
5 DL REC A
6 LP H
7 GND
8 PC 12V
CN02
FROM/TO I/O BOARD CN4302
1 INPUT CTL1
2 INPUT CTL2
3 VCR/TV
4 LN V IN
5 PB H
6 LN A L IN
7 GND
8 RF A L OUT
9 GND
10 T.A L IN
CN01
FROM/TO I/O BOARD CN4301
1 VIDEO IN
2 C+ POSITION H
3 T.V IN
4 AL 5V
5 INPUT CTL3
6 C.V OUT
7 GND
8 AL 12V
9 RF V OUT
10 PC 12V
FROM SYSCON
SM1 INPUT CTL3
SM2 INPUT CTL1
SM3 INPUT CTL2
SM4 C+ POSITION H
SM5 VCR/TV
SM6 DL REC V
SM7 DL PB A
SM8 DL REC A
SM9 A.MUTE
DC01 1N4148
DC02 1N4148
* RC01 100K
* RC02 100K
FROM/TO TUNER
TM1 T.V OUT
TM2 T.A L OUT
TM3 RF V IN
TM4 RF A IN
FROM POWER
AL 5V PM1
AL 12V PM2
PC 12V PM3
PB 5V PM4
TO Y/C
YM1 VIDEO IN
FROM OSD
OT1 VIDEO OUT
FROM/TO SERVO
AS1 LP H
AS2 CTL +
AS3 CTL -
TO POWER
PA1 PC 12V
MAIN BOARD

*: CHIP PARTS

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

9-13. Function/Timer


CN702
1 AUX V IN
2 GND
3 AUX A IN
TO CANAL I/O CN4303
CN701
1 GND
2 DECODER H
3 IMAGE CTL
4 MECAM H
5 N.C
6 AL 5V
7 PC 5V
8 SHUTTLE A/D
9 DC 4.4V(F-)
10 REMOCON
11 KEY IN 2
12 KEY IN 1
13 G1
14 G2
15 G3
16 G4
17 G5
18 G6
19 G7
20 G8
21 G9
22 G10
23 SEG 1
24 SEG 2
25 SEG 3
26 SEG 4
27 SEG 5
28 SEG 6
29 -30V
30 SEG 7
31 SEG 8
32 SEG 9
33 SEG 10
34 RESET
35 DC 4.4V(F+)
FROM/TO SYSCON CN601
SW723 RESET
VR701 100KB
R741 4.7K
<RCA LINE>
C703 82
R734 75
C704 222
R739 5.6K
R732 220K
SEG ONLY 330P
JA701 VIDEO
JA702 AUDIO
Q702 R2001
Q704 R2001
Q701 R1004
Q703 R1004
R742 4.7K
R731 R712 R713 R714 R715 R716 R717 R718 R719 R720 R721 R722 R723 R724 R725 R726 R727 R728 R729 R730
68K X 20
ONLY OTP MICOM
C709 47/16
ZD701 6.8V
R737 100(1/4W)
R711 100(1/4W)
R743 5.1(1/4)
C713 104
PICTURE CTL SW726
MAX
NORMAL
MIN
R710 4.7K
R707 4.7K
SYSTEM SW SW727
PAL
COMMON
MESECAM
R704 220
LD704 KL6 123E
Q705 KSR1004
S1 S2 S3 S4
PLL1
4H' D/ 2H' D
TV/VCR
SHOWVIEW
D701 D703 D705 D707
KEY IN2
R735 4.7K
PLL2
VPS
2/1 SPEED
LANG
D702 D704 D706 D708
KEY IN1
4G
D712
D714 1SS108TA
D715 1SS108TA
R738 1K
R740 5.1(1/4)
R736 4.7K
10G 9G 8G 7G 6G
D728 D727 D726 D725 D724
POWER/ TIMER
PLAY
STILL/ PAUSE
CH UP
SERVICE
SW701 SW703 SW705 SW707 SW710
STOP/ EJECT
REC/ OTR
CH DOWN
TV/VCR
SW702 SW704 SW708 SW709
RM701 GP1U781R
REMOCON MODULE
OUT
R701 47K
C710 102
C711 103C
C701 100u/16v
DT701
F(+)
F(-)
SVV-10BS06
OTR SECAM
DUB PAL
EVEN MESE
REMAIN NT4.43
OTR NT PB
VPS DBL
INDEX
VCR AFT
ST
SC
1234
L-V

*ALL NO MARKING DIODE : 1N4148

DIODE	OPTION	COMENT
D703	0	4H' D
	X	2H' D
D704	0	VPS
	X	NON VPS
D705	0	TV/VCR
	X	VCR ONLY
D706	0	SP/LP
	X	SP ONLY
D707	0	NO SHOWVIEW
	X	SHOWVIEW
D708	0	FRANCE
	X	ENG.

	PLL1	PLL2
NO HYPER(3 BAND)	0	0
HYPER (3 BAND)	0	1
UHF ONLY	1	1

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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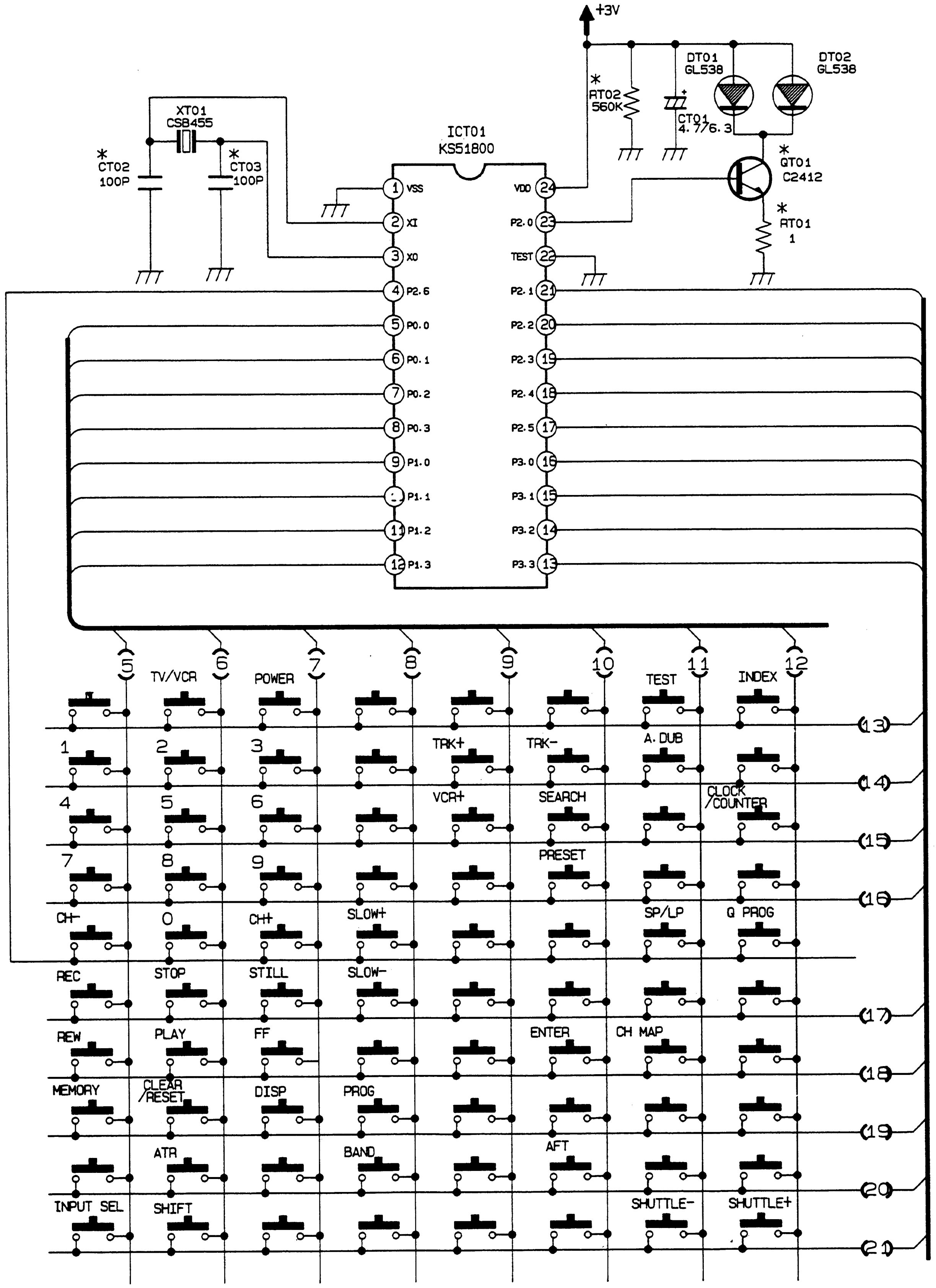
9-14. Remote Control


+3V
DT01
GL538
DT02
GL538
*
RT02
560K
CT01
4.7/6.3
XT01
CSB455
*
CT02
100P
*
CT03
100P
ICT01
KS51800
*
QT01
C2412
*
RT01
1
VSS
XI
XO
P2.6
P0.0
P0.1
P0.2
P0.3
P1.0
P1.1
P1.2
P1.3
VDD
P2.0
TEST
P2.1
P2.2
P2.3
P2.4
P2.5
P3.0
P3.1
P3.2
P3.3
TV/VCR
POWER
TEST
INDEX
1
2
3
TRK+
TRK-
A.DUB
4
5
6
VCR+
SEARCH
CLOCK
/COUNTER
7
8
9
PRESET
CH-
0
CH+
SLOW+
SP/LP
Q PROG
REC
STOP
STILL
SLOW-
REW
PLAY
FF
ENTER
CH MAP
MEMORY
CLEAR
/RESET
DISP
PROG
ATR
BAND
AFT
INPUT SEL
SHIFT
SHUTTLE-
SHUTTLE+

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

MEMO